

## **APPENDIX A**

1. VDOT Permit
2. Decal Placement Diagram
3. Map of Decal Project
4. News Release
5. Presentation Excerpts
6. Household Hazardous Waste Days News Releases
7. Household Hazardous Waste Days Tax Bill Flyers
8. Household Hazardous Waste Days Flyers
9. Household Hazardous Waste Days Web-based Materials
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11. State of the Streams Loudoun County: 2005
12. 2005 and 2006 Family Stream Day Information
13. Building and Development Strategy for Watershed Management Solutions
14. Environmental Education Conference Attendees Letter
15. Non-government Stormwater Management Efforts
16. Text of "*The Call*" Radio Spot
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18. NVRC News Release
19. "*Inside Loudoun County*" News Release
20. Science Teacher's List and Poster Copies
21. Public Information and Participation Web Page
22. Sample Map

**Commonwealth of Virginia**  
**Department of Transportation**  
**Land Use Permit**



Permit No. **949-37587**  
Revision No. **0**  
Status **Active**

This permit only grants permission to use whatever rights the Commonwealth Transportation Board and the Department of Transportation have in the right of way and no more, and it is the obligation of the permittee to secure any other releases or permission that may be needed in order to perform the work.

Application No. 656142 Payment Method 0 Total Payment Amount  
Effective Date October 27, 2006 Expiration Date April 25, 2007  
Reinstatement Date Revision Date October 27, 2006

|  |  |  |
|--|--|--|
| <b>Permittee Information:</b>  | <b>Your Job #</b> Storm Drain Project/Loudoun County | <b>Surety &amp; Account Receivable Information:</b>  |
| <b>Owner</b> 540948306-9491-2, County of Loudoun<br><b>Address</b> Loudoun County General Services<br>211 Gibson Steet, NW, Suite 123<br>Leesburg, VA 20176<br><b>Contact</b> Randall Williford<br><b>Phone #</b> (703)737-8686<br><b>Fax #</b> (703)737-8008<br><b>24 Hr. #</b> (571)233-1849 | <b>Agent</b>   | <b>Name</b> Cash<br><b>Surety Type</b> No Bond<br><b>Surety Acct.</b> 0<br><b>Amount</b> 0.00<br><b>Obligation Amt.</b> 0.00<br><b>Surety Holder</b> Owner<br><b>Acct. Recv. #</b> |

**AUTHORIZATION:** In compliance with your application, permission is hereby given insofar as the Commonwealth Transportation Board has the right, power, and authority under sections 33.1 - 12(3); 33.1 - 197; 33.1 - 198 of the Code of Virginia as amended, to grant by Special Agreement and/or by Land Use Permit for you to perform the work and or activity(s) described below:

**Location**

**Map #** 32 D 5  
**County/City/Town** Loudoun  
**Highway Route(s)** 7, Harry Byrd Highway  
**From Route** 1582, Algonkian Parkway  
**To Route** 0000, Sinegar Place

A COPY OF THE APPROVED  
PERMIT PACKAGE SHALL BE  
KEPT ON THE JOB SITE  
AT ALL TIMES BY THE  
PERMITTEE

**Work Description**

Install and maintain storm drain decals at various locations throughout the County of Loudoun as shown on the attached plans. No other usage is permitted.

| Fee Description | New Fee | Existing Fee | Total  |
|-----------------|---------|--------------|--------|
| *** Fees Waived |         |              | \$0.00 |
| Totals          |         |              |        |

Applicant has complied with Section Code 56-265.15 affidavit is attached. ☐ YES ☐ Not Applicable

**TERMS:** Applicable as stated within the Land Use Permit Manual (current edition) and/or as per approved plan(s) and/or regulatory instructions and/or agreements attached hereto. **THIS PERMIT IS NOT VALID WITHOUT THE FOLLOWING ATTACHMENTS:**

Approved Site Plans, Permittee Liability, Special Provisions - General, Traffic Control in Work Areas

COMMONWEALTH TRANSPORTATION BOARD  
David S. Ekern, P. E.

- Call before you dig
- Allow the required time for marking
- Respect and protect the marks/flags
- Excavate carefully



Call Miss Utility  
1-800-552-7001

By:   
Samuel Allaire, Resident Permit Manager

10/27/2006

**Final Inspection Requirements:** Upon completion of the work described under this permit, the permittee shall contact the following office in writing to request inspection.

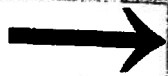
Leesburg Residency (703)737-2000  
41 Lawson Road, S.E.  
Leesburg, VA 20175

Permit No.: 949-37587, Revision No.: 0

VDOT's Web Site: [www.vdot.virginia.gov](http://www.vdot.virginia.gov)

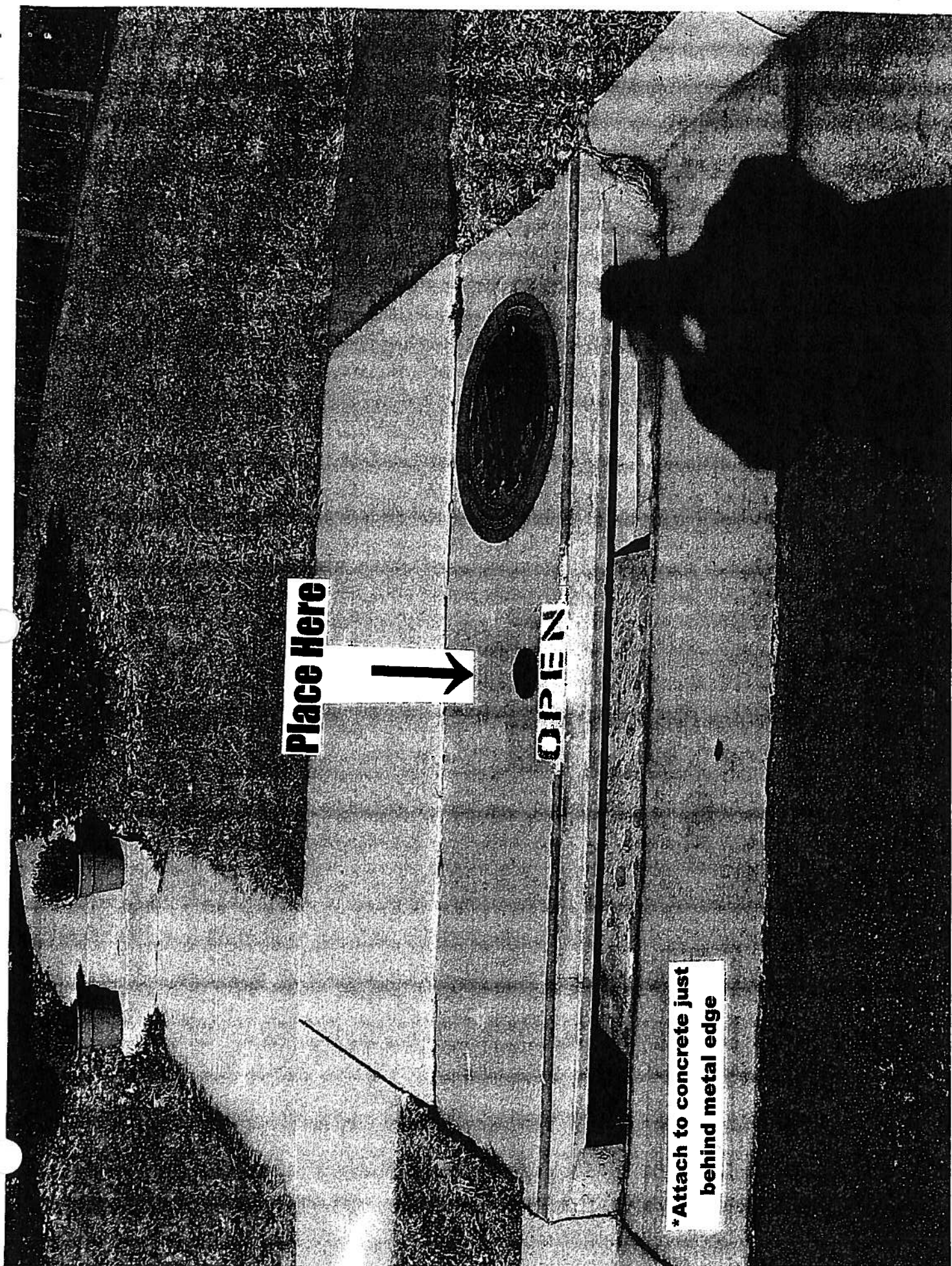
Permittee Copy

**Place Here**

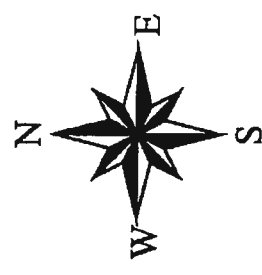
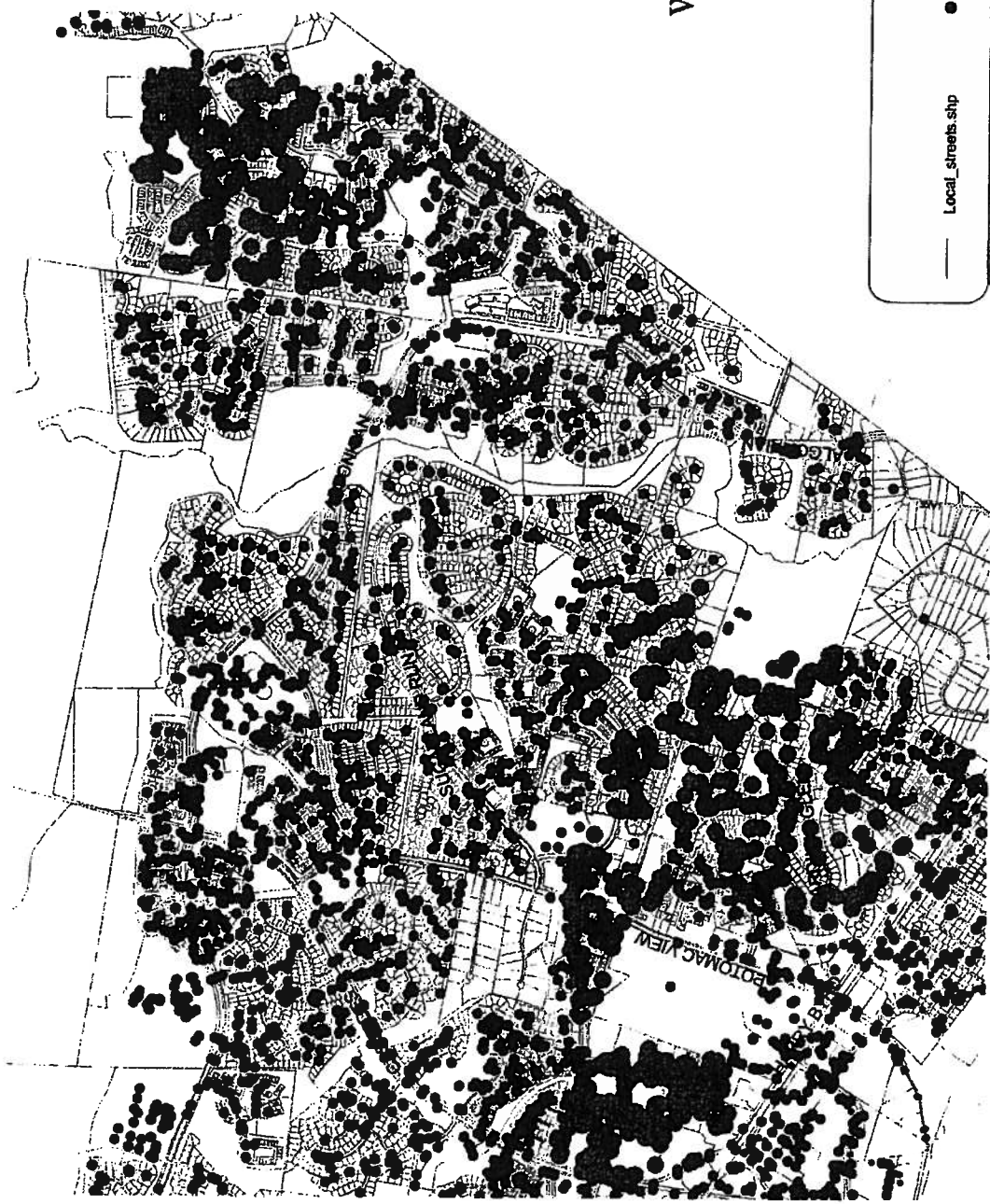


**OPEN**

**\* Attach to concrete just  
behind metal edge**



**Loudoun County - Cascades Area  
Storm Drain Labeling Project  
Current Status July 2007: 1,014 Labeled**



**Legend**

- Local streets.shp
- Labeled Storm Drains
- Storm Drain Locations



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Skip Navigation



## County of Loudoun

### News Release

May 25, 2007

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#### **Public Invited to Stormwater Management Information Meeting**

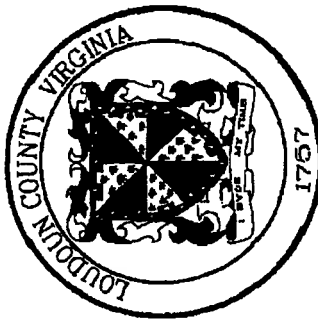
The Loudoun County Department of General Services will hold a public information meeting to discuss the county's role in stormwater management. The meeting will be held at the Cascades Library, 21030 Whitfield Place, Potomac Falls, on Tuesday, June 5, 2007, from 7:00 p.m. to 9:00 p.m. General Services has been managing and maintaining stormwater facilities located within county easements since the adoption of the Stormwater Management Ordinance in 2003.

Staff from the department will present a program describing the function of stormwater ponds and other drainage structures and the maintenance requirements to keep them performing properly. The department staff will also discuss ways that residents can help with stormwater pollution issues as well as the Storm Drain Decal Program.

Information about the meeting or about the department's stormwater management program can be obtained by calling Boyd Church, Senior Public Works Engineer, at 571-258-3204. Information about the program is also online at [www.loudoun.gov/genserv/stormwater/](http://www.loudoun.gov/genserv/stormwater/).

# # #

Contact: Boyd Church, Dept. of General Services, 571-258-3204



# ***Stormwater Management***

June 5, 2007

Dept. of General Services  
Public Works Division

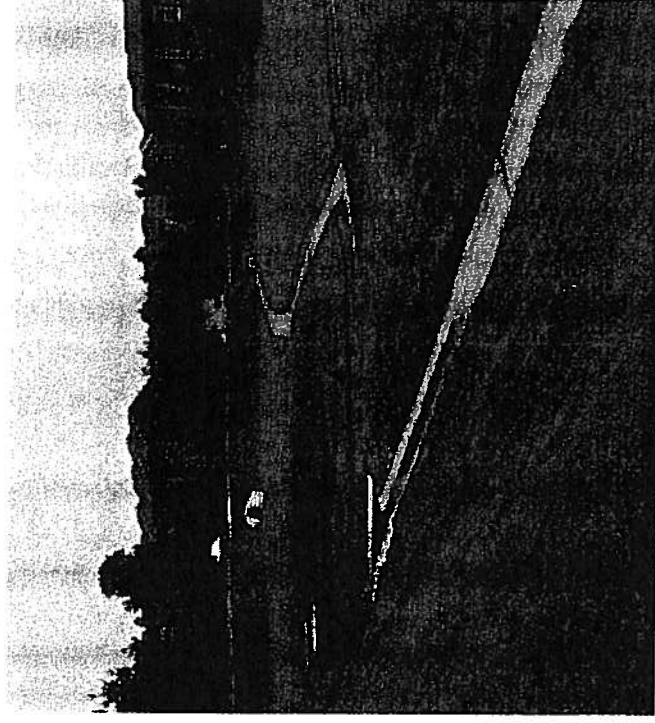




# What is Stormwater Management?

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**Managing stormwater runoff through the design, construction, and maintenance of a stormwater system that removes pollutants, protects stream banks, and prevents flooding**



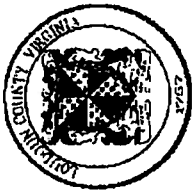


# Common Maintenance Concerns

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- **Inspection**—the first step in the maintenance process
- **Trees**—on the dam embankment or blocking channel or pipe with roots
- **Sediment**—reducing pipe or pond capacity or blocking flow
- **Clogged low flow outlet**—causing standing water in a dry pond
- **Trash/debris**—blocking flow
- **Small vegetation**—blocking channels and causing pools
- **Structural damage**—missing grates or covers, broken or separated pipes, etc.

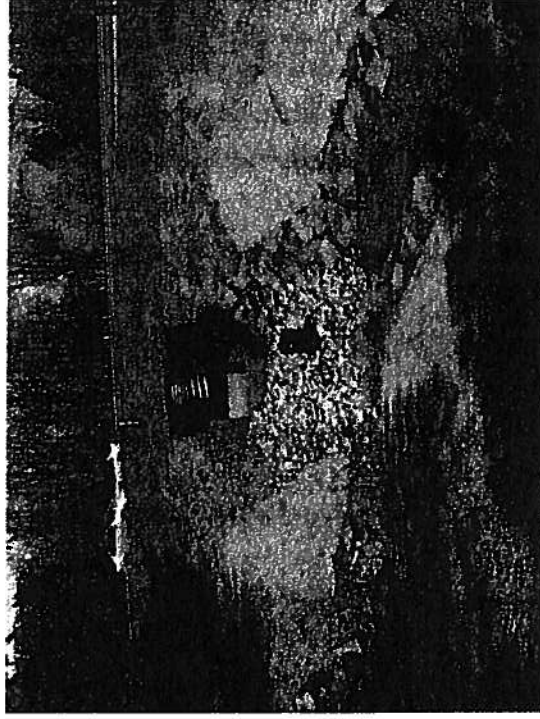




# ***Common Maintenance Concerns***

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**Low Flow Outlet  
After  
Maintenance**





# ***Regulations Governing Stormwater Management***

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## ***Program Requirement***

- VPDES – Virginia Pollutant Discharge Elimination System (MS4-Phase II) Stormwater Discharge Permit

## ***Design and Construction***

- Loudoun County Facilities Standards Manual

## ***Maintenance***

- Loudoun County Codified Ordinances  
CHAPTER 1096—Stormwater Management



# ***Who Is Responsible for Maintenance?***

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## **Easements are the Key**

*For all stormwater features other than Wet Ponds:*

- **Stormwater infrastructure that lies within appropriately dedicated stormwater easements... shall be maintained by the County to its original design capability.**
- **Existing stormwater infrastructure that does not lie within stormwater easements dedicated to Loudoun County must be maintained by the property owner.**



# ***Exception***

## ***Wet Ponds/Lakes***

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### ***Pond Agreements***

- **Maintenance associated with wet ponds/lakes that have uses in addition to stormwater management remains with the property owner**
- **Unless, on a case-by-case basis, the County assumes certain maintenance responsibilities ...detailed in a negotiated stormwater maintenance agreement between the property owner and the County**



# ***What Maintenance Will the County Perform?***

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**Essentially, the County will maintain the stormwater infrastructure but will not mow grass, maintain vegetation, or maintain the surface features of the easement:**

- ***Wet Ponds/Lakes:*** Through separate negotiated pond maintenance agreements, the County will remove debris and maintain embankments (except on state regulated dams), control structures, weirs, and other devices necessary to control the flow of stormwater. The County will remove silt that accumulates as the result of stormwater flow. The owner will be responsible for all other maintenance activities including but not limited to mowing the area around the pond; maintaining landscaping, fences, docks etc.; providing algae control; and mitigating effects of oil or other hazardous material infusions. However, if the County determines that failure to mow the ponds is impeding the flow of stormwater or contributing to the potential degradation of the embankment, the County will mow the grass semi-annually to its own specifications.



# County Maintenance (cont.)

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- **Dry Ponds:** County will remove debris and maintain embankments, control structures, weirs, and other devices necessary to control flow of stormwater. County will not mow grass or maintain vegetation. However, if the County determines that failure to mow the ponds is impeding the flow of stormwater or contributing to the potential degradation of the dam embankment, the County will mow the grass semi-annually to its own specifications. The owner is prohibited from changing the approved elevations or contours of the dry pond.
- **Open Channels/Ditches:** The County will remove debris and obstructions in open channels or ditches but will not mow grass or maintain vegetation. The land owner is prohibited from changing the approved elevation or contours of the dedicated open channel or ditch.
- **Drains, Catch Basin, Inlets, Pipes, etc.:** County will remove debris and maintain the structural components.



# County Maintenance (cont.)

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- **Perennial Streams:** County will not remove vegetation that does not hinder the natural flow of the stream. County will remove obstacles that impede stormwater flow. County will maintain and repair stream banks to mitigate erosion.
- **Swales/Berms:** County will not mow grass, maintain vegetation, or maintain the surface features of drainage swales or berms. Land owner is prohibited from changing the approved elevation or contours of the dedicated swale or berm.
- **Mitigated Wetlands:** The County will maintain control structures. The County will not mow grass, maintain vegetation, or remove debris. The land owner is prohibited from reducing the size or changing the approved elevations or contours of the wetland area.
- **Bio-Retention Facilities (Rain Gardens):** The County will not maintain bio-retention facilities that serve a single property. The County will maintain bio-retention facilities serving more than one property.





# ***Pollutant Reduction***

## ***Pet Waste***

- Stormwater ponds are often convenient areas for dog walking
- Contributes bacteria and nutrients to our ponds, lakes and streams
- Use a plastic bag and dispose of pet waste in the trash or toilet



For Immediate Release  
January 23, 2006

Contact: Kate Glass  
703-777-0187

### **Household Hazardous Waste Schedule for 2006**

Loudoun County's Office of Solid Waste Management announces the Household Hazardous Waste Collection event schedule for 2006. All events are on a Saturday from 9:00 a.m. to 3:00 p.m. The events are free and for county residents only. The schedule is available electronically at the following link: <http://www.loudoun.gov/oswm/hhw.htm#Schedule>

Two new locations have been added to the schedule in an effort to meet the growing needs of the County residents: Freedom High School in South Riding on June 10 and Harmony Intermediate School in Hamilton on October 21.

Typical HHW items are oil-based paints/stains/varnishes, paint thinners, old fuels including gas/oil mixes, kerosene, and diesel fuel; and cleaners such as oven cleaners, drain cleaners, bathroom cleaners, and all purpose cleaners. Other HHW items are scouring powders, mothballs, mildew removers, metal polishes, rust removers, wood preservatives, pet care products, furniture polishes and waxes, pool chemicals and most automotive maintenance products.

The first step to identifying HHW is to read the label and watch for the following warning words: Caution, Warning, Danger, Poison, Toxic, Flammable, Combustible, Explosive, Volatile or Corrosive. There may be handling warnings such as "Avoid Contact with Skin or Eyes," "Keep Away from Children" or "Strong Oxidizer."

Remember, waste motor oil, used automobile batteries and waste antifreeze can be recycled

year round at the Loudoun County Solid Waste Management Facility (a.k.a. the Landfill) at 20939 Evergreen Mills Road. They will not be accepted at the HHW collection event.

Also, Latex or water-based paints are not a hazardous waste. Dry or solidify left over paint for disposal with your household garbage. For more tips on proper paint disposal, as well as information about HHW, check our web page at <http://www.loudoun.gov/oswm/hhw.htm> or call the Office of Solid Waste Management at 703-777-0187.

# # #

## Household Hazardous Waste Schedule for CY 2006

ALL EVENTS ARE ON A SATURDAY FROM 9:00 AM TO 3:00 PM

| DATE                              | LOCATION                       | ADDRESS  |
|-----------------------------------|--------------------------------|--|
| MARCH 18                          | HERITAGE HIGH SCHOOL           | 520 EVERGREEN MILL ROAD, LEESBURG                |
| APRIL 22                          | LOUDOUN VALLEY HIGH SCHOOL     | 340 N. MAPLE AVENUE, PURCELLVILLE                |
| MAY 20                            | NORTHERN VA. COMMUNITY COLLEGE | 1000 HARRY FLOOD BYRD HWY, STERLING              |
| JUNE 10<br><i>NEW LOCATION</i>    | FREEDOM HIGH SCHOOL            | 25450 RIDING CENTER DRIVE SOUTH RIDING, VIRGINIA |
| JULY 15                           | HERITAGE HIGH SCHOOL           | 520 EVERGREEN MILL ROAD, LEESBURG                |
| SEPTEMBER 16                      | NORTHERN VA. COMMUNITY COLLEGE | 1000 HARRY FLOOD BYRD HWY, STERLING              |
| OCTOBER 21<br><i>NEW LOCATION</i> | HARMONY INTERMEDIATE SCHOOL    | 38174 WEST COLONIAL HWY, HAMILTON                |
| NOVEMBER 18                       | HERITAGE HIGH SCHOOL           | 520 EVERGREEN MILL ROAD, LEESBURG                |

|   |          |
|---|----------|
| <b>CLEAN WASTE PROGRAM</b><br><b>BUSINESS HAZARDOUS WASTE</b><br><b>*** BUSINESSES MUST PRE-REGISTER***</b><br>time will be posted closer to event date |          |
| FRIDAY MAY 19   | LANDFILL |
| FRIDAY OCTOBER 20   | LANDFILL |

## Household Hazardous Waste DISPOSAL CALENDAR

ALL EVENTS ARE FROM 8:30 AM TO 2:30 PM  
ON THE FOLLOWING SATURDAYS:

|          |  |
|----------|--|
| March 24 | Heritage High School<br>520 Evergreen Mill Road<br>Leesburg                            |
| April 28 | Loudoun Valley High School<br>340 N. Maple Ave.<br>Purcellville                        |
| May 19   | Northern VA. Community College<br>1000 Harry Flood Byrd Highway<br>Route 7<br>Sterling |
| June 16  | Stone Bridge High School<br>43100 Hay Road<br>Ashburn                                  |
| July 21  | Heritage High School<br>520 Evergreen Mill Road<br>Leesburg                            |
| Sep 22   | Harmony Intermediate School<br>38174 W. Colonial Highway<br>Hamilton                   |
| Oct 20   | Northern VA. Community College<br>1000 Harry Flood Byrd Highway<br>Route 7<br>Sterling |
| Nov 17   | Heritage High School<br>520 Evergreen Mill Road<br>Leesburg                            |

All Events are from 8:30 a.m. to  
2:30 p.m. on scheduled SATURDAYS

LOUDOUN COUNTY RECYCLES!  
For more information call The Recycling Hotline (703) 771-5318  
Loudoun County Virginia  
Office of Solid Waste Management  
906 Trailview Blvd., SE, Suite B  
Leesburg VA 20175

VOLUNTEERS  
WELCOME!



2007  
HOUSEHOLD  
COUNTY

# HAZARDOUS WASTE Guide

Published by the  
Loudoun County  
Office of Solid Waste Management

906 Trailview Blvd., S.E., Suite B  
Leesburg, VA 20175  
703-777-0187  
[www.loudoun.gov/oswm](http://www.loudoun.gov/oswm)

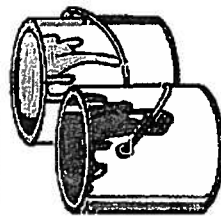
## What Is Household Hazardous Waste?

Household Hazardous Waste (HHW) is any substance containing ingredients that could negatively affect your safety, health or the environment. Below are some suggestions to help you identify HHW.

- Be alert to labels and warning words such as "danger", "poison", "warning", "caution", "avoid contact with eyes", "do not swallow", "avoid inhalation of vapors", and "use in well-ventilated area". They may indicate that a product is harmful.
- "Non-toxic" typically means a product is safe for humans, but may not be safe for the environment.
- Most HHW products are found in the garage (automotive care products), kitchen and bathroom (cleaning supplies), garden/tool shed (insecticides and home maintenance items such as wood preservatives, oil-based paints, and deck or driveway sealers), and basement (hobby/craft chemicals or supplies such as enamel paint or glues).



**Don't buy products that contain toxic material!**



**LATEX PAINT** is not a household hazardous waste.

However... Latex paint **MUST** be solidified prior to disposal; a landfill **CANNOT** accept liquid waste. You can save the County the expense of handling the materials as a household hazardous waste by solidifying leftover paint prior to disposal. **To solidify paint:** stir or add an absorbent material such as cat litter, sawdust, newspaper or a commercial product known as "waste paint hardener" and allow the paint/absorbent mixture to dry in a secure area. Then handle the dry paint as garbage; place in a bag with the rest of your household trash. **THANKS** for being pro-active.

## Safely Manage Your Household Hazardous Waste

### Safely Manage Means:

- Properly dispose of your household chemicals to prevent harm to the environment or human health.
- Do not put your HHW in the garbage or pour them down the drain or into the sewer.
- Bring them to a HHW Collection Event.

### Safely Transport HHW to Collection Events:

- Bring materials in original containers or packaging or in secure, clearly labeled, leak-proof containers.
- Check all containers to make sure the lids are tight.
- If a container leaks, pack contents and container in a larger package and use an absorbent material, such as kitty litter, to soak up the spill.
- **DON'T** mix different products or unknown materials together in the same container.

### What to Expect at the Collection Event:

- When you arrive at the site, you will be asked a few survey questions. Such as, questions about the materials you've brought, how you found out about the event, if you have participated before, and where you live.
- Please stay in your car while you are at the collection event and extinguish smoking materials.
- Staff will remove the materials from your car.
- After the material is removed, you may exit the site.
- Average time at the collection site is 3-5 minutes.



**Buy only what you need!**

## Accepted & Not-Accepted Wastes:

### Accepted Materials:

- Brake Fluids and Automotive Maintenance Products (except Used Motor Oil and Antifreeze) (see below)
- Cleaning Products
- Driveway Sealers
- Fire Extinguishers
- Fluorescent bulbs
- Herbicides, including Fertilizers with Herbicides
- Hobby or craft chemicals
- Insecticides
- Oil-Based Paints
- Paint Thinner and Solvents
- Pesticides
- Photographic Chemicals
- Rechargeable Batteries; Lithium, Silver Oxide and Mercury Batteries
- Swimming Pool chemicals
- Thermostats and thermometers
- Unwanted Fuels
- Wood Preservatives

### Not-Accepted Materials:

- Ammunition
- Biological Waste or Biologically Active Materials
- Dioxins
- Electronics
- Explosives
- Infectious Materials
- Kepones
- Pressurized tanks or cylinders
- Propane Gas Cylinders
- Radioactive Waste
- Shock Sensitive Materials

Used motor oil, antifreeze or automobile batteries are not HHW. These materials are accepted at the Loudoun County Solid Waste Management Facility (LCSWMF) for free and are recycled.

The LCSWMF is open Monday-Saturday 8:00 am to 4:00 pm and located at 20939 Evergreen Mills Rd. (Rt. 621) Leesburg, VA. Call 703-771-5500 for more information.



Printed on 100% recycled paper, 100% post consumer fiber, process chlorine-free with soy-based ink.

## Household Hazardous Wastes DISPOSAL CALENDAR

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ON THE FOLLOWING SATURDAYS:**

|                 |  |
|-----------------|--|
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| <b>June 10</b>  | Freedom High School<br>25450 Riding Center Dr.<br>South Riding                         |
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LOUDOUN COUNTY

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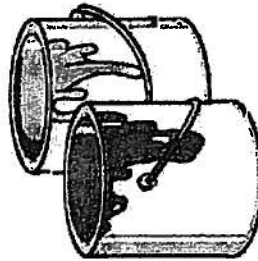
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- Rechargeable Batteries; Lithium, Silver Oxide and Mercury Batteries
- Insecticides
- Paint Thinner and Solvents
- Photographic Chemicals
- Oil-Based Paints
- Pesticides
- Swimming Pool chemicals
- Unwanted Fuels
- Wood Preservatives

### Not-Accepted Materials:

- Ammunition
- Biological Waste or Biologically Active Materials
- Dioxins
- Explosives
- Infectious Materials
- Kapones
- Propane Gas Cylinders
- Radioactive Waste
- Shock Sensitive Materials
- Electronics

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**AVOID BUYING PRODUCTS THAT CONTAIN TOXIC MATERIALS**

[Skip Navigation](#)[home](#)

## Household Hazardous Waste Disposal



The **Office of Solid Waste Management** conducts several **Household Hazardous Waste (HHW) collection events** throughout the year to collect used and unwanted household hazardous materials such as gasoline and household chemicals. For these events, a special contractor comes to the county to accept and package the waste for shipment to an appropriate processing facility.

The next HHW collection event for 2007 is scheduled for **Saturday, July 21, 2007, from 8:30 a.m. to 2:30 p.m.**, at Heritage High School, 520 Evergreen Mill Road, Leesburg. The complete schedule is available online.

- ↳ [2007 Schedule of HHW Events](#)
- ↳ [Checklist of common HHW](#)
- ↳ [Photos from HHW collection events](#)

The county also conducts two hazardous waste disposal collection events each year for local businesses under the **Clean Waste Program**. [Details...](#)

### What is Household Hazardous Waste (HHW)?

- ↳ Button batteries (used in watches, hearing aids, calculators, etc.) **For more information about battery recycling and collection locations**, go to the Rechargeable Battery Corporation's webpage [here](#):
- ↳ Fertilizers with herbicides
- ↳ Fluorescent bulbs
- ↳ Gasoline and other unwanted fuels
- ↳ Herbicides
- ↳ Household and automotive cleaning products
- ↳ Insecticides
- ↳ Oil-based paint, although hardened oil-based paint may also be disposed of in the trash. (**Latex paint is not a Household Hazardous Waste. Learn more...**)
- ↳ Paint thinners & solvents
- ↳ Pesticides
- ↳ Photographic chemicals
- ↳ Rechargeable batteries
- ↳ Swimming pool chemicals

### Waste That *Will Not* Be Accepted:

- ↳ **Ammunition:** Call the Fire & Rescue dispatcher at 703-777-0637 or the Fire Marshal's office at 703-737-8600.
- ↳ **Asbestos:** should only be removed by a trained contractor.

- ⌞ **Automotive:** Motor oil, antifreeze and lead-acid automobile batteries are not accepted at HHW events, but can be taken to the Loudoun County Landfill for recycling year-round.
- ⌞ **Carbon monoxide detectors:** They can be disposed of with your regular household trash.
- ⌞ **Commercial, industrial, or medical waste (including biologically active waste):** Contact a local waste management service company about these wastes (listed in the yellow pages)
- ⌞ **Compressed gas cylinders larger than five pounds** (camp stove size)
- ⌞ **Dioxins, Kepones**
- ⌞ **Explosives, including fireworks:** Call the Loudoun County Fire Marshal, 703-737-8600, for pickup
- ⌞ **Household trash or special pick-up items.**
- ⌞ **Propane and helium cylinders:** Propane cylinders can be returned to the point of purchase or delivered to the landfill empty for disposal. Helium tanks may also be delivered to the landfill for disposal.
- ⌞ **Radioactive materials**
- ⌞ **Shock-sensitive materials**
- ⌞ **Smoke detectors:** They can be disposed of with your regular household trash.
- ⌞ **Unknown materials:** Items without any type of identification

## 2007 Schedule of Household Hazardous Waste Collection Events

All events are on Saturdays from 8:30 a.m. to 2:30 p.m. (Note new time.)

| Date         | Location<br>(Click for directions)  | Address   |
|--------------|-------------------------------------|---|
| March 24     | Heritage High School                | 520 Evergreen Mill Road, Leesburg                 |
| April 28     | Loudoun Valley High School          | 340 N. Maple Avenue, Purcellville                 |
| May 19       | Northern Virginia Community College | 1000 Harry Flood Byrd Highway (Route 7), Sterling |
| June 16      | Stone Bridge High School            | 43100 Hay Road, Ashburn                           |
| July 21      | Heritage High School                | 520 Evergreen Mill Road, Leesburg                 |
| September 22 | Harmony Intermediate School         | 38174 West Colonial Highway, Hamilton             |
| October 20   | Northern Virginia Community College | 1000 Harry Flood Byrd Highway (Route 7), Sterling |
| November 17  | Heritage High School                | 520 Evergreen Mill Road, Leesburg                 |

### For more information, call:

Loudoun County Office of Solid Waste Management  
703-777-0187

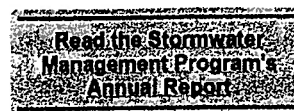
### Related Links

- ⌞ **Checklist of common HHW**
- ⌞ **Environmental Protection Agency Interactive HHW Guide**
- ⌞ **Household Hazardous Materials: FEMA's Guide for Citizens**
- ⌞ **Office of Solid Waste Management**

[Skip Navigation](#)[home](#)**Loudoun County**  
VIRGINIA

## Stormwater Management Program

- The **Stormwater Management Presentation** made at the June 5, 2007, public information meeting is **online**. **View the presentation.**



**Welcome to the Loudoun County Stormwater Management Program!** On this page, you will find information about the program's background and implementation as well as links to other important aspects of the program.

- **Purpose**
- **Stormwater Permit**
- **Stormwater Ordinance**
- **Stormwater Infrastructure Survey**
- **Broad Run Farms Report**
- **Complaints**



### Purpose

The purpose of the Stormwater Management Program is to establish and maintain a countywide program to address the design, development, improvement, operation, inspection, maintenance and oversight of the stormwater management system. The program is administered through the Public Works Division of the Department of General Services.

**Randy Williford,**  
Chief, Stormwater  
Management Section

#### Department of General Services

209 Gibson Street  
Leesburg, VA  
20176  
703-737-8686  
[click to e-mail](#)

As the population of the county grows, certain federal and state criteria concerning the quality and quantity of storm water runoff must be met. The eastern, urbanized area of Loudoun County has been included by the Environmental Protection Agency and the Commonwealth of Virginia in those areas requiring stormwater discharge permits under the National Pollutant Discharge Elimination System (NPDES) Phase II requirements. Control of the quality and quantity of the runoff is essential to the overall health of our people and our natural resources.

The Stormwater Management Plan is designed to comply with the six minimum control measures outlined in Virginia state regulations. The plan is available online.

- **Stormwater Management Plan**

The plan will help the county to meet the following goals:

- ensure that the system performs to protect water quality by preventing the introduction of pollutants to the maximum extent practicable;
- maintain the stormwater system to prevent quantity impact to citizens (e.g. localized flooding);
- include stormwater maintenance activities such as routine inspections; cleaning; and remedial and preventive repairs (maintained to original design standards);
- integrate stormwater system performance with the Revised General Plan objectives;
- mitigate stormwater impact on the ecology of natural stream channels to the maximum extent practicable; and,
- implement the program countywide providing equitable levels of service across the county.

Loudoun County's plan addresses all six minimum control measures outlined in the General Virginia Pollutant Discharge Elimination System (VPDES).

- ↳ **Six Minimum Control Measures**

## **Stormwater Permit**

Loudoun County submitted a required VPDES "Registration Statement" and stormwater management program to the Virginia Department of Environmental Quality (DEQ) on March 7, 2003. The plan was accepted by DEQ on July 8, 2003, without modification. Loudoun County can now legally discharge stormwater to the waters of the Commonwealth under the VPDES General Permit.

The Annual Reports required under the program are available online:

- ↳ **Annual Reports**

## **Stormwater Ordinance**

On October 20, 2003, the Board of Supervisors amended the Codified Ordinances of Loudoun County, pursuant to Code of Virginia Section 10.1-603.1 et. seq., to adopt a Stormwater Management Ordinance as Chapter 1096. The primary purpose of this ordinance is to enable the county to comply with state requirements to reduce pollution from stormwater runoff into the rivers and streams of the Commonwealth. The ordinance describes maintenance of the stormwater system, unlawful discharge to the stormwater system, violations and enforcement. Chapter 1096 is available online.

- ↳ **Chapter 1096 Stormwater Management Ordinance**

## **Stormwater Infrastructure Survey**

A major element of the county's Stormwater Management Plan is to perform a physical survey and produce a map of the storm sewer system within the 81-square-mile permit area in the eastern portion of the county. To accomplish this task, field survey crews utilizing Global Positioning Satellite (GPS) technology began the infrastructure location process in the summer of 2002. Over 30,000 stormwater structures (curb/yard drop inlets, manholes, pipe, ponds, etc.) have been inventoried and mapped. This phase of the project is the first step toward developing a plan that will reduce localized flooding and pollution from stormwater runoff into rivers and streams.

An informational brochure for the Stormwater Inventory Project is available online for individuals, homeowners associations (HOAs) and any other interested groups.

- ↳ **Stormwater Field Survey Brochure** (Requires Adobe Acrobat)
- ↳ **Get Adobe Acrobat**

## **Broad Run Farms Report**

In support of the county's Stormwater Management Program, the U.S. Army Corps of Engineers has conducted a study to assess the flood risk and investigate emergency access for the Broad Run Farms area. The Broad Run Farms area is serviced by one road, Youngs Cliff Road (Virginia Route 811), that is low lying and subject to periodic flooding from the Potomac River. When Youngs Cliff Road is flooded, it isolates approximately 60 homes from emergency services. In addition, when the Potomac River floods, several of these homes are subject to flood damage.

The investigation analyzed the flood event history and emergency access issues in the Broad Run Farms area to clearly define the flood risk, and developed possible solutions for alleviating the emergency access issues. The results of the investigation are at the planning level; no detailed design or construction plans will be developed as a result of this investigation.

The investigation includes public meetings and posting of the report. The report is in a .pdf format which requires Adobe Acrobat Reader, which may be downloaded [here](#) for free.

- ↳ **Broad Run Flood Risk and Emergency Access Investigation**
- ↳ **Executive Summary**

A public information meeting on the study results was held September 29, 2005, at the Eastern Regional Library. A summary of the polling responses and questions and answers from the public meeting, Appendix

G, is online.

↳ **Appendix G**

## **Complaints**

Residents who have a complaint regarding stormwater are encouraged to contact the county by telephone or use the links below to complete the online Stormwater Complaint Form or send an e-mail.

- ↳ Stormwater Complaint Hotline, 703-777-0117
- ↳ **Stormwater Complaint Form** or send an e-mail to: **stormwater@loudoun.gov**

## **Related Links**

- ↳ **Public Information, Participation & Outreach**
- ↳ **Department of General Services**
- ↳ **Department of Building and Development**

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# **State of the Streams Loudoun County: 2005**

## ***A Water Quality Assessment***

Loudoun Watershed Watch and  
Loudoun Wildlife Conservancy



Prepared by:

**Darrell Schwalm, MPH, M. Ed**

Chairman, Monitoring Data and Research Subcommittee  
Loudoun Watershed Watch  
Leesburg, VA 20177  
December 2005



# Executive Summary

The State of Loudoun Streams: 2005 report provides baseline water quality data and assessments of current conditions in Loudoun County streams. These data are taken from stream monitoring reports and water quality studies prepared by government, regional, county, and citizen groups. This report provides comprehensive analyses of data from several sources that cover the major streams in Loudoun County. The 2005 report updates the State of Loudoun Streams: 2002 report prepared by Loudoun Watershed Watch.

## Purpose

The purpose of the assessments are to provide a point of reference on the severity of stream degradation that can be used by county and other officials to prioritize areas with the greatest need for protection and restoration. This report contributes useful information to support comprehensive watershed planning efforts in Loudoun County, and to inform citizens and educators of water resource stewardship needs.

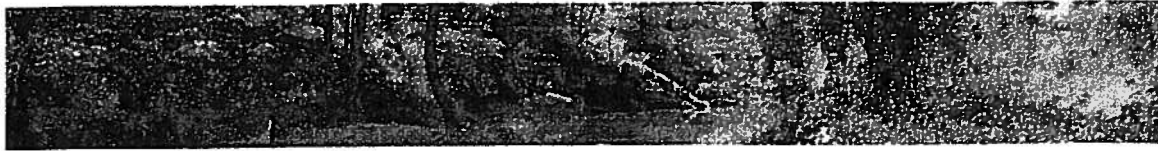
The assessments of Loudoun streams examine the major human impacts that upset the natural balance found in less disturbed stream ecosystems. Human impacts are complex, and many small impacts can add up to cause major degradation problems. The conditions considered to assess human impacts are: (1) the chemical and bacteriological quality of the water, (2) changes in land use and impervious surfaces, (3) riparian buffers and stream habitat, and (4) the type and quantity of organisms living in the stream. The assessments attempt to provide a balanced consideration of these conditions.

## Background

All Loudoun streams are impacted to some degree by human activities. Several are degraded to the degree that they do not meet both Federal Clean Water Act and Virginia Water Quality Standards for recreational use and aquatic life. These streams have been designated as impaired by the state. They include: Catotin Creek and its tributaries, Goose Creek and its tributaries, Little River, Limestone Branch, Piney Run, Broad Run, and Sugarland Run. The Virginia Department of Environmental Quality (DEQ) and Department of Conservation Recreation (DCR) have conducted pollution source studies and issued reports (called Total Maximum Daily Load or TMDL) for Goose Creek, Catotin Creek, Piney Run, and Limestone Branch. They have also prepared a plan for Catotin Creek that identifies the best management practices that needed to be applied to reduce fecal contamination to acceptable levels and to allow the safe use of streams for recreation. The plan depends upon federal cost-share funds and voluntary actions by riparian property owners who are polluting the streams.

## Monitoring Organizations

- **Loudoun Watershed Watch – LWW** is a citizen group that has a goal of developing a countywide stream monitoring program and encouraging citizens to protect the water resources of Loudoun County. It works



to enhance the contributions of participating groups by promoting the synergy that results from citizen, private organizations, County personnel, and Federal and State agencies working together to accomplish common goals.

- **Loudoun Wildlife Conservancy** - LWC is a 501 (3) membership organization whose mission is to preserve aquatic and upland wildlife habitat. LWC is the largest unaffiliated conservation group in Loudoun County, and the principal partner with LWW in stream monitoring and educational outreach to the citizens of Loudoun County.

Much of the stream data used in this report are collected by citizens. **Loudoun Stream Quality Project** is a countywide, stream monitoring program sponsored by LWC and the Audubon Naturalist Society (ANS). The project supports stream monitoring at 16 sites throughout Loudoun County. Monitoring is conducted by teams of citizen volunteers who receive training from the Audubon Naturalist Society in the sampling techniques and macroinvertebrate identification. Stream monitors follow a protocol based upon EPA's Rapid Bioassessment Protocol. Monitoring includes: (1) an annual comprehensive stream habitat assessment, and (2) sampling of benthic macroinvertebrates in May and September. In June 2005 LWW and LWC began a bacteria monitoring program in the Catotuin Creek watershed using the Coliscan Easygel method.

## Major Findings

Stream monitoring data collected by DEQ, LWC, North Fork Goose Creek Watershed Committee (NFGC), and Loudoun Soil and Water Conservation District (LSWCD) indicate the following about the health of Loudoun streams.

- **Sources of Pollution** - Pollution from urban storm water runoff, agricultural and grazing activities, failing septic tank systems, and wildlife are degrading all Loudoun streams. The state rates the impact as "high" for 67% of the streams. The principal causes of the degraded conditions are the failure of riparian property owners to maintain natural stream buffers and floodplains; and to provide adequate storm water, agricultural, and grazing best management practices (BMPs).
- **Impervious Surfaces** - Increases in the amount of impervious surfaces in watersheds aggravate the impact of storm water runoff on stream erosion and water quality. Assessments in 2002 showed that 22% of Loudoun streams were highly to moderately impacted. The high rate of development since that time continues to increase the severity of the problem. It is doubtful that highly impacted streams can be fully restored to healthy conditions.
- **Chemical Quality** - The chemical quality of stream water is generally good throughout Loudoun. However, large quantities of sediment, caused by land disturbances and streambank erosion, are carried



from Loudoun streams into the Potomac River, and contribute to the severe sediment problems in the Chesapeake Bay.

- **Fecal Contamination** - The bacteriological quality of Loudoun streams are generally poor due to fecal bacteria contamination. The largest contributors of fecal bacteria are livestock that are allowed access to streams. Human sources are also substantial in some watersheds. High levels of fecal bacteria contamination have existed for several years, and recent monitoring by state authorities show no improvements. The high levels of fecal bacteria are a potential health hazard to people who use the streams for recreational purposes.
- **Stream Habitats** - The health of stream habitats varies considerably between streams and stream segments. Monitoring sites on most streams show marginal habitat conditions due to poor riparian buffers in agriculture areas, unstable banks caused by high runoff flows, and sediment deposition on stream bottoms. Stream habitat conditions have not improved over the last several years.
- **Aquatic Life** - Conditions of aquatic life are poor to fair in many streams. These streams show poor diversity of aquatic insects and have a majority of pollution-tolerant species such as midge larva. Biological conditions can fluctuate considerably from year to year.

## **Conclusions**

In 2002 LWVW made several recommendations to address water quality and stream health problems in Loudoun County. Unfortunately, little has been done in Loudoun County since 2002 to protect streams, with the exception of the "Goose Creek Source Water Protection Plan" developed by Loudoun County Sanitation Authority (LCSA). Many of the same needs and conditions exist in 2005.

- **Watershed Management Planning** - Loudoun County needs watershed management plans that will enable the county to implement the Federal Clean Water Act and the Chesapeake Bay Act requirements, and the Virginia Water Quality Standards. In order to accomplish this, the following are recommended.
- **Water Management Authority** - Loudoun County should create a water management authority to develop watershed management plans and oversee the implementation of plans to restore the quality of Loudoun streams. A system of small subwatersheds should be identified that provide homogeneous management areas. Additional information regarding impervious cover and loss of forest will aid management planning. Collaboration with Loudoun Watershed Watch and Loudoun Wildlife Conservancy would help bring citizen stakeholders together to support this process.
- **Cost Sharing Incentives** - The practice of allowing livestock access to streams is severely degrading Loudoun streams. Loudoun needs more effective cost sharing and tax-incentive programs designed to



encourage landowners to install agriculture best management practices to protect streams. This needs to be supported by a countywide educational program conducted in cooperation with local and regional citizen water quality organizations.

- **Countywide Stream Monitoring Program** - Loudoun County needs a countywide stream monitoring program to assess changes in stream health and progress being made by state authorities to restore water quality. The monitoring is needed to supplement state efforts and efforts of citizen organizations engaged in stream stewardship activities, and to support the Chesapeake Bay Agreement. A countywide program will allow the county to play a leadership role in water resource protection and restoration.
- **Collaborative Monitoring Program** - Assessments of chemical, bacteriological, habitat, and biological parameters are needed to provide an accurate evaluation of water quality and stream health conditions. The program should coordinate monitoring by county, state, and citizen groups; and utilize low cost methods to conduct the assessments.
- **Probabilistic Monitoring Program** - To be most effective, the program should include a probabilistic sampling plan based on randomly selected monitoring sites in each watershed.



**Loudoun Watershed Watch**  
Protecting the Water Resources of Loudoun County, VA

## **2005 Annual Family Stream Day**

LWW  
ORGANIZATION

**Saturday, October 8, 2005**  
**10:00 am to 3:00 pm**  
**Broadlands Community Center, 43004 Waxpool Rd, Virginia**

WATERSHED  
ASSESSMENTS

STREAM  
MONITORING

EVENTS &  
ACTIVITIES

MONITORING DATA

On Saturday, October 8 from 10:00 am to 3:00 pm, an "X-Stream-ly Awesome" day in and around the Ashburn community is planned. This 4th annual "Exploring Our Streams Day" planned by Loudoun Watershed Watch, will offer exploration of a local urban stream and hands-on discovery of the smart landscaping, stormwater and erosion control, stream assessment and monitoring, and the many ways you can help your local streams and environment

DOCUMENTS

Just for Kids

COOLysMenu

The day's events will include:

- Guided stream walks
- Water quality monitoring demos
- Soil Erosion
- Birding/habitat walk
- Stormwater
- Games for kids
- Wetland habitat
- Smart Landscaping
- Water conservation
- Indoor exhibits



Water Quality Demo



Stream Walk



Visitors at Event

Event partners include: Loudoun County Sanitation Authority, Loudoun Soil and Water Conservation District, Loudoun County agencies and Loudoun Watershed Watch n organizations.

PassPort

July 6, 2007

[info@loudounwatershedwatch.org](mailto:info@loudounwatershedwatch.org)

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Loudoun Watershed Watch  
Protecting the Water Resources of Loudoun County, VA

## 2006 Annual Family Stream Day

LWW  
ORGANIZATION

**Saturday, October 14, 2006**  
**10:00 am to 3:00 pm**  
**Seneca Ridge Middle School, 98 Seneca Ridge Drive, Sterling, VA 20164**

WATERSHED  
ASSESSMENTS

Download the **Flier or Press Release**

STREAM  
MONITORING

EVENTS &  
ACTIVITIES

MONITORING DATA

DOCUMENTS

Just for Kids

COOLjsMenu

On Saturday, October 14 from 10:00 am to 3:00 pm, an "X-Stream-ly Awesome" day in and around the Sterling community is planned. This 5th annual "Exploring Our Streams Day" planned by Loudoun Watershed Watch, will offer exploration of a local urban stream and hands-on discovery of the smart landscaping, stormwater and erosion control, stream assessment and monitoring, and the many ways you can help your local streams and environment

The day's events will include:

- Guided stream walks
- Water quality monitoring demos
- Soil Erosion
- Stormwater
- Games for kids
- Wetland habitat
- Smart Landscaping
- Water conservation
- Indoor exhibits

Event partners include: Loudoun County Sanitation Authority, Loudoun Soil and Water Conservation District, Loudoun County agencies, Piedmont Environmental Council, Audubon Naturalist Society, Loudoun Wildlife Conservancy, Potomac Conservancy and other Loudoun Watershed Watch member organizations.



Water Quality Demo



Stream Walk



Visitors at Event



**Family Stream Day** has been organized to coincide with **World Water Monitoring Day** (<http://www.worldwatermonitoringday.org/>) on October 18. Come to Family Stream Day and learn more about how 80,000 people have participated in 50 countries in this event to check water quality.



July 6, 2007

[info@loudounwatershedwatch.org](mailto:info@loudounwatershedwatch.org)

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# Loudoun County

## Building and Development

### Strategy for Watershed Management Solutions

- ↳ Loudoun Watershed Update
- ↳ Source Water Protection Issues
- ↳ SWMS Final Report December 2006
- ↳ Interim Bridge Committee Minutes
- ↳ Planning for Loudoun's Water & Watersheds Brochure

The Loudoun Strategy for Watershed Management Solutions (SWMS) project is a collaborative effort to coordinate existing watershed efforts and define a shared vision for watershed activities across Loudoun County.

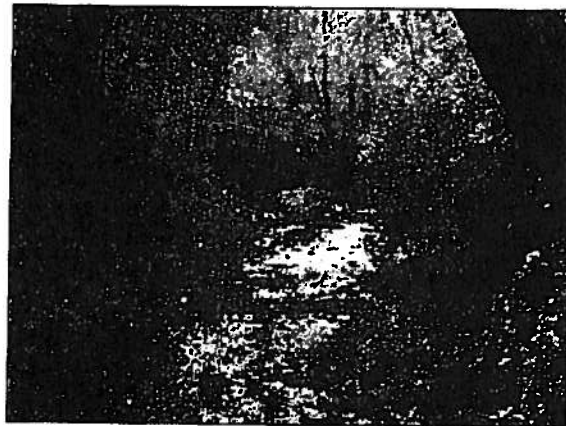
The development of a watershed management plan provides a planning and working document for both government and citizen activities. The effort will develop a strategic plan that will compile and evaluate optimum strategies for water resource management. Water resource management is critical to providing clean potable water and a healthy sustainable environment.

Funding for the project is provided by the National Fish and Wildlife Foundation, U.S. Environmental Protection Agency, and Loudoun County. The SWMS Team has worked to develop a countywide approach for the watershed planning effort. The team has been discussing a range of issues, including:

- ↳ consensus goals and scope for the watershed plan;
- ↳ scientific protocols to be used in the watershed planning effort;
- ↳ the overall flow for watershed planning activities;
- ↳ how public involvement should be accomplished county-wide;
- ↳ criteria for prioritizing sub-watersheds and specific projects;
- ↳ hopes and expectations for implementation;
- ↳ coordination or protocols for internal county processes to ensure a smooth planning process; and
- ↳ how best to manage water resources using the watershed as the basic unit of resource management.

Facilitation for the project has been provided by the Institute for Environmental Negotiation at the University of Virginia. The stakeholder group developed a consensus strategy and framework for the development of the watershed management plan.

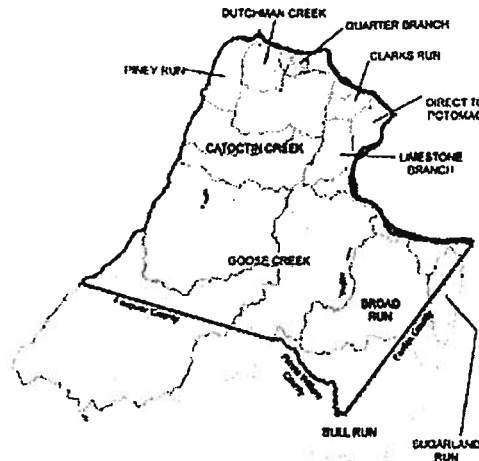
The preliminary phase was designed to establish how the various groups and stakeholders will work together through the watershed planning and implementation efforts, catalogue existing watershed activities, as well as develop a joint vision for Loudoun's watershed activities.



## Meetings

There were several meetings of the SWMS Team in 2006. Meeting documents are online as is a **Final Report**. Some documents are in .pdf format and require Adobe Acrobat Reader, which may be downloaded [here](#).

- └ **02-22 & 02-23-06 Meeting Documents**
- └ **03-23 & 03-24-06 Meeting Documents**
- └ **05-04-06 Meeting Documents**
- └ **06-14-06 Meeting Summary**
- └ **Interim Bridge Committee Minutes**



Click on the map for a larger view of Loudoun's watersheds. (Requires Adobe Acrobat Reader.)

## Final Report

The final report of the Loudoun County Strategy for Watershed Management Solutions (SWMS), dated December 2006, is online. Please note that some of the files are large and may require patience to download. A **brief report overview** also is online.

The report sections are:

- └ **Cover Page**
- └ **Forward**
- └ **Table of Contents**
- └ **Sections I-V: Executive Summary, Declaration of Cooperation, Inventory of Watershed Activities, Watershed Planning Work Plan, Evaluation of SWMS Effort**
- └ **Appendix A**
- └ **Appendices B-F**

## Source Water Protection Issues

A map has been created that highlights source water protection issues dealing with the fate and transport of contaminants in the groundwater and catastrophic subsidence (sinkhole collapse) in the karstic/carbonate area along Limestone Run and Highway 15 in the Leesburg Limestone Conglomerate Formation.

- └ **Loudoun County Carbonate Area with Mapped Sinkholes: Route 15 Corridor**

The Cardinal Glen stream restoration project is another example of source water protection issues. A report on the project is online:

- └ **Cardinal Glen Stream Restoration Project**

## For More Information

If you would like more information about the project, please contact either Kelly Baty of the Loudoun County Department of Building and Development or Bruce McGranahan of the Department of Planning. Their contact information may be found below.

**Wm. Kelly Baty, C.P.G.**, Hydrogeologist  
Department of Building & Development  
1 Harrison Street, S.E., 3rd floor  
Leesburg, VA 20177  
**Phone:** 703-771-5390  
**e-mail:** [kelly.baty@loudoun.gov](mailto:kelly.baty@loudoun.gov)

**Bruce E. McGranahan, P.E.**, Environmental Program Coordinator  
Department of Planning  
1 Harrison Street, S.E., 3rd floor  
Leesburg, VA 20177  
**Phone:** 703-737-8511  
**e-mail:** [bruce.mcgranahan@loudoun.gov](mailto:bruce.mcgranahan@loudoun.gov)

## **Related Links**

### **Local**

- ↳ **A Citizens Guide to Erosion & Sediment Control in Loudoun County**
- ↳ **Loudoun County Sanitation Authority: Goose Creek Source Water Protection Study**
- ↳ **Loudoun County B&D: Environmental & Water Resource Initiatives**
- ↳ **SWMS Facilitator: Institute for Environmental Negotiation**

### **Regional**

- ↳ **Anne Arundel County, Maryland: Office of Environmental & Cultural Resources**
- ↳ **Chesapeake Bay Water Quality**
- ↳ **Montgomery County, Maryland: Upper Rock Creek Area Master Plan**
- ↳ **VA Dept. of Conservation & Recreation: Chesapeake Bay Local Assistance**
- ↳ **Water Resources of Virginia**

### **National**

- ↳ **United States Geological Survey: Ground Water & Surface Water: A Single Resource**
- 

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# Loudoun County Environmental Education Conference

May 10, 2007

Conference Participants and Invitees,

Thank you for attending the Loudoun Environmental Education Conference held April 13, 2007, at the Loudoun County Public Schools (LCPS) Administration Building in Ashburn. More than 40 participants attended, representing a wide variety of local and regional organizations with an environmental education mission. If you did not attend, we believe your organization may be interested in the conference results.

The conference provided an opportunity for non-formal, environmental education providers to discuss the needs, opportunities and challenges of providing environmental education and stewardship opportunities for Loudoun County. Citizens are faced with an increased need for educational resources and an increased number of important environmental issues. Our schools face increased challenges to provide our young people with meaningful outdoor experiences to meet state educational goals.

Notes regarding conference accomplishment are enclosed. We invite you to read these notes and determine whether any ideas put forth by participants would be useful to your organizational goals.

There was an important outcome of the conference. Participants felt that environmental education goals in Loudoun County could be advanced if provider organizations formed partnerships and shared resources to organize educational programs and stewardship opportunities. A steering committee is being formed to explore partnership opportunities.

The first meeting of the steering committee will be held on Thursday, June 7 at 1 p.m. at the LCPS Administration Building. We invite you to attend, and ask that you RSVP by May 23, 2007, to LCSA's Community Relations Specialist, Liza Young, at 703-771-1095 or at [liza.young@lcsa.org](mailto:liza.young@lcsa.org).

We hope you will find useful information in the conference notes, and look forward to your participation in the steering committee and future partnership projects.

Sincerely,

*Darrell Schwalm*

Darrell Schwalm  
Loudoun Wildlife  
Conservancy

*Marcia Sward*

Marcia Sward  
Audubon Naturalist  
Society

*Liza Young*

Liza Young  
LCSA





# 2006 Virginia Waterways Cleanup Day

## *Part of the International Coastal Cleanup*

NOTE: Last updated: Sept 18, 2006.

The cleanup events listed below (by county mostly) are open to the public. If your county or town is not having a cleanup event, please consider serving as a Site Captain, and making it possible for others to volunteer in cleaning Virginia's waterways.

**Washington D.C.** cleanup sites are being coordinated by Melanie Star Wilson, Phone number: 202-338-1094, Email address: [melanie\\_star\\_wilson@yahoo.com](mailto:melanie_star_wilson@yahoo.com) ICC sites in Washington D.C. are listed under "Washington D.C." near the bottom of this list.



**Right:** *These volunteers from Philip Morris USA cleaned 450 pounds of litter and debris from Columbia Island in the Potomac River during the 2003 ICC in Virginia.*

### **How to participate in a cleanup event:**

1. Cleanup events are listed by county and, in some cases, by incorporated towns. Find your nearest Cleanup Site.
2. Contact the Site Captain for cleanup site directions and other information.
3. Show up on the cleanup day and bring some friends! Please wear sturdy sneakers or boots, plastic or rubber gloves, hat, sunscreen, sunglasses, and bring a bottle of water. Bug spray is a good idea too. Children under 18 must be supervised by an adult. [Click here for safety information.](#)

**Lancaster County**

Cleanup Site: Call the **Yankee Point Sailboat Marina** for details

Date of Cleanup: **NOTE: THIS CLEANUP HAS BEEN POSTPONED TO September 23.** Come join the fun and help our shoreline!

Contact: Ken Knull, Yankee Point Sailboat Marina, Daytime Phone: 804-462-7018; Evening Phone: 804-462-9836

Email Address: ken@yankeepointmarina.com Web Site: www.yankeepointmarina.com

**Lee County**

Cleanup Site: Many cleanup sites in Lee County. Leaders needed... please call Carol Doss at 276-628-1600 for details!

Date of Cleanup: Sept 23-30

Contact: Carol W. Doss of the **Upper Tennessee River Roundtable**

Daytime Phone: 276-628-1600

Email Address: uppertnriver@yahoo.com

**Loudoun County**

Cleanup Site: **Keep Loudoun Beautiful Park (East of Leesburg, where Route 7 crosses Goose Creek)**

Date of Cleanup: Sept 16 from 9 AM to Noon

Contact: Richelle Brown

Phone number: 703-946-6804 Email address: watersprite4@hotmail.com

**Louisa County**

Cleanup Site: **Lake Ruth Ann and Cauthon Run**

Date of Cleanup: Sept or Oct -- please call to learn the date

Contact: Bill and Ruth Small, Friends of Small Country

Phone number: 540-967-2431 Email address: camp@smallcountry.com

**Martinsville -- please see Henry County****Middlesex County**

Cleanup Site: **Broad Creek (South Branch)** -- call the Deltaville Yachting Center for details!

Date of Cleanup: Saturday, September 16

Contact: Onna Grimm, Deltaville Yachting Center

Phone number: 804-776-9898, Email address: onna@dycboat.com

**Nelson and Buckingham Counties**

Cleanup Site: **James River** (this is being organized by the James River State Park and Friends of the James River)

Date of Cleanup: Saturday, September 9. We have two floats available with different start locations. The half day trip begins at Wingina at 8 am, and the full day trip starts at the Dixon Landing in the park at 8 as well. For details, and to pre-registration, call the James River State Park, or send an email.

Contact: Leslie Tinder, James River State Park naturalist, 434-933-4355

Email address: jamesriver@dcr.virginia.gov

**Northampton**—also see Accomack County for ICC events that might be close to you.

**Northampton County**

Cleanup Site: **Wreck Island Natural Area Preserve and Parkers Marsh Natural Area Preserve**

Date of Cleanup: Sept or October, please call for details

Contact: Dot Field, Eastern Shore Region Steward, VA Dept of Conservation and Recreation/  
Division of Natural Heritage

Daytime Phone: 757-787-5576 Email Address: dot.field@dcr.virginia.gov All volunteers at this cleanup event will receive a t-shirt (while supplies last), compliments of Delmarva Power.



# **PIEDMONT ENVIRONMENTAL COUNCIL**

promoting and protecting the Virginia Piedmont's rural economy, natural resources, history and beauty

« home | search



« Home

Take Action

About PEC

Contact Us

PEC News

PEC Staff

Calendar of Events

Support PEC

PEC Programs

Land Use Policy

- Transportation
- Air Quality
- Power Line

Land Conservation

- Easements
- Conservation Funds

County Programs

Albemarle

Clarke

Culpeper

Fauquier

Greene

Loudoun

Madison

Orange

Rappahannock

Resources

Interactive

Maps

Reports

Site Tools

Web Links

Support PEC's Programs



## **Tuscarora Creek Watershed Stakeholder Meeting**

**Location:** Ida Lee Recreation Center  
Lower Level Meeting Room  
60 Ida Lee Dr., N.W.  
Leesburg, VA 20176

703.777.1368


**Date:** 4/25/2007 from 7:00 pm -  
9:00 pm

**Hosted By:** PEC and the Center for  
Watershed Protection  
Gem Bingol, Clarke County  
Land Conservation Officer,  
540.955.9000, gbingol[at]  
pecva.org

**RSVP by:** April 25, 2007 at 8:00 pm

For some reason this  
event appears to be  
closed. Contact Heather  
Richards at PEC (540)  
955-9000 with questions.

 Tell-A-Friend

 Save to Calendar

 View Other  
Events

In August of 2006, The Piedmont  
Environmental Council (PEC) and the  
Center for Watershed Protection (CWP)  
conducted stream surveys and  
environmental studies in the Tuscarora  
Creek subwatershed of Goose Creek in  
cooperation with the Town of  
Leesburg. The data we gathered has  
been compiled into a report of findings  
on existing conditions and includes a set  
of recommendations which will help in  
the development of watershed  
management plans to protect water  
quality and environmental assets.

On April 25, 2007, at 7 P.M. we will  
present our findings and  
recommendations to the public to get  
input and feedback and discuss next  
steps. Representatives of PEC and CWP  
will conduct the meeting, and



Secure donations may be made online

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Piedmont Environmental  
Council.  
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representatives of the Tuscarora Creek Watershed Committee set up by the Leesburg Town Council will also be present to hear public input and comments.

We look forward to your attendance. Your participation is very important for protecting our local environment. As we receive feedback and prepare for the next phase of our project, we are looking for partnerships throughout the community. Your perspective and involvement are essential for developing successful partnerships.

View the report (.pdf, 2mb), appendix (.pdf, 10mb). Please contact Gem Bingol at 703-669-2205 or at [gbingol@pecva.org](mailto:gbingol@pecva.org), if you have questions or concerns in advance of the meeting.

Please RSVP (upper right hand column) to help in preparing adequate seating and refreshments for the meeting.

# Alice Ferguson Foundation

## 19th Annual Potomac River Watershed Cleanup



### POTOMAC RIVER WATERSHED CLEANUP LOUDOUN COUNTY, VA CLEANUP SITES

Please contact site leaders prior to cleanup

Cleanup Overview

Get Involved

Site Leader Center

Cleanup Sites

Press Materials

Sponsors

Data & Results

Cleanup Resources

Videos & Photos

Contact Us

Site Map

| Cleanup Site  | Date & Time          | Site Leader   | Additional Comments   |
|---|----------------------|---|---|
| Lansdowne --<br>Elizabeth Mills<br>Riverfront Park<br>Potomac Heritage National Trail<br>Leesburg | March 31<br>9am-12pm | Bob McGraw<br><a href="#">Email</a><br>Dave Thomas<br>Lansdowne Conservancy | Can accommodate up to 30 volunteers.<br>Cleanup follows the newly opened section of the Potomac Heritage National Trail.<br>Limited parking for 30 cars. No restroom facilities. Directions                             |
| Lansdowne --<br>Goose Creek<br>Leesburg   | March 31<br>9am-12pm | Dave Thomas<br><a href="#">Email</a><br>Bob McGraw<br>Lansdowne Conservancy | Can accommodate up to 20 volunteers.<br>Limited parking for 10 cars. No restroom facilities. Directions   |
| Mosby's Tower Farm<br>Lovettsville  | March 31<br>9am-12pm | Adopted Site<br>GS  | Adopted site, no additional volunteers needed.  |
| Purcellville stormwater retention pond near LVHS<br>Purcellville                                  | March 27 & 28        | Adopted Site  | Adopted site, no additional volunteers needed.  |
| Sharpshin and Tenfoot Island<br>Algonkian Regional Park<br>Sterling                               | March 31<br>9am-12pm | Arraon Otte<br><a href="#">Email</a><br>Potomac Conservancy                 | Can accommodate up to 30 volunteers. Limited parking for 25 cars. No restroom facilities available. Site not suitable for young children, elderly or disabled volunteers. This site is an island and is only accessible |

|  |  |  |   |
|--|--|--|---|
|  |  |  | by canoe, or kayak. Volunteers with<br>canoes and kayaks are needed.<br>Volunteers will meet at Algonkian<br>Regional Park boat launch.<br>Directions |
|--|--|--|---|

**Directions to Lansdowne - Elizabeth Mills Riverfront Park:**

From Route 7 east of Leesburg, turn north onto Lansdowne Boulevard. After 0.8 mile, turn right onto Riverpoint Drive. After 0.3 mile, turn right onto Squirrel Ridge Place. At end of street (0.3 mile) turn right and then take an immediate left to the signed Elizabeth Mills Riverfront Park parking lot. Follow \"Riverfront Park\" signs to the Potomac River, about 5 minute walk. (Trash collected will be picked up close to the river.)

**Directions to Lansdowne - Goose Creek:** From Route 7 east of Leesburg, turn north on Belmont Ridge Road into Lansdowne, then left on Riverside Parkway at the traffic light. Proceed about 0.8 mile to the cleanup site at the west end of the bridge over Goose Creek (also known locally as Coton Bridge).

**Directions to sharpshin and Tenfoot Island:** Beltway (I-495), take Route 7 west 11 miles to Cascades Parkway north, and drive 3 miles to the park entrance. Follow signs to the boat launch.

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2001 Bryan Point Road, Accokeek, Maryland 20607  
webmail@fergusonfoundation.org

## Big Spring Creek Watershed

### Chris Anderson, 7<sup>th</sup> Grade, Smart's Mill MS

Hi! I've been doing **GREEN** for about two years. In science class and my school's Ecology Club. Big Spring Creek, a mere five minute walk from my school, is where we have been testing for the quality of the water, the amount of benthic-macro invertebrates, and the nearby land use. But, as any good scientists, we had to do some "research" before conducting any experiments. Back in class, we learned how to use the water quality equipment, we were introduced to a few of the organisms that we would discover down at the creek, and my class was educated how to diagnose how the land was being used around the creek.

When we were fully prepared, we took the field trip to Big Spring Creek. We broke up into 3 groups: A. Land Use, with expert Daryl Schwalm; B. Water Quality, with expert Jennifer McDonnell; and C. Benthic Macro Invertebrate, with expert Cliff Fairweather. I was in the water quality group, where we used kits to measure the water's pH, bacteria, and other chemical levels. Everyone got to do an important part and the experience was awesome!

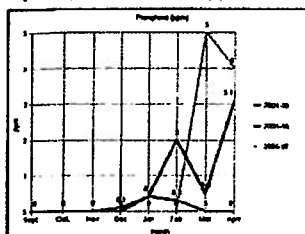
After the field trip to the creek, when we got back to class, each group completed a presentation and we shared our results. We all received a chart and we copied down all the info we had collected, and we discussed the current health of the creek, and then we brainstormed ideas about how we could make it better. Finally, we decided which idea to work on by performing a dot vote on the overhead projector. **GREEN** continues to be a thrilling and appealing program that I plan to stay a part of for the remainder of my life.

## Sugarland Run Stream Watershed

### Dominion High School

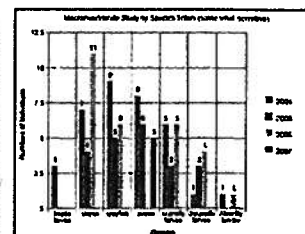
During the 2006-2007, school year, Dominion High Students in Mary Young-Lutz's environmental class conducted water quality studies of Sugarland Run Stream. The stream is located behind the school. LaMotte water testing kits were used to collect data on pH, dissolved oxygen, nitrates, phosphate, temperature, and conductivity. Flow rate and conductivity data was collected using a CBL, which was connected to a TI calculator.

Water quality of the stream appeared to be good with the exception of phosphate.



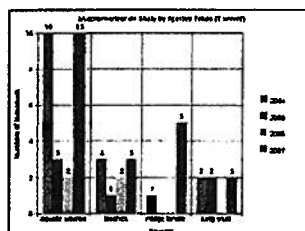
This graph shows an increase in phosphates levels probably due to spring fertilizing of the ball fields and the newly developed homes.

A macroinvertebrate study was also conducted using seine nets.

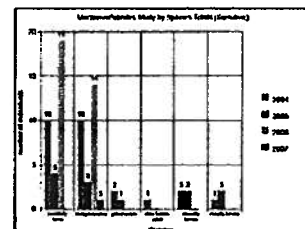


This chart shows that there is a decrease in somewhat sensitive species diversity.

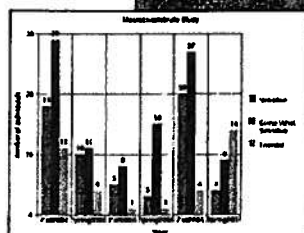
Finally, a soil erosion profile was conducted. The purpose of the profile is to look for changes in the shape of the channel. Mr. Darrell Schwalm and Mr. Bruce McGarahan were guest speakers and helped us conduct the erosion profile.



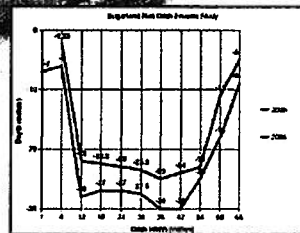
This chart shows a decrease in tolerant species diversity and numbers.



This chart indicates a decrease in sensitive species diversity and numbers.



Our data show that as the sensitive species decrease, the number of tolerant species increase.



This graph shows an average loss of five inches of soil in the ditch.

Based on the data that was collected, there is evidence that Sugarland Run Stream is an impaired stream. The macroinvertebrate analysis of the stream indicates that there is a decrease in diversity of species. We believe this is caused by an increase of sediment into the stream. Plans for improving the water quality include a stream restoration project of the storm water channel (ditch). The goal is to slow down erosion by slowing down the water that enters the channel. Suggestions include a combination of:

- cut back stream bed in steep places
- place large rocks along the bend of the stream
- create natural dams to slow water
- use organic netting to hold back some area
- plant more trees along bank.

We are still in the process of coming up with a plan.



**The Call** (tough-talking storm drain persona. Think "Sopranos".)

*[Phone rings]*

Hello?

Yeah Johnson. It's me.

Who?

I'm right in front of the house.

Where?

Right on the street.

Well, uh... All I see is a storm drain.

Yeah yeah. That's me.

What?

Listen Johnson, you gotta stop dumpin' yer used motor oil on the ground. Ya hear me?

I don't dump my used mo...

Now no use denying it, Johnson. Just stop it. Alright?

Hey, uh, How are you doing that?

And you're over-fertilizing your yard.

I'm not over-fertilizing...

They're called labels, Johnson. Whatsa matter wit' you? They tell you how much fertilizer to use. Read 'em.

Hey, but all I did was...

Look all that *stuff* washes into our storm drains whenever it rains.

Well I... I didn't know that.

I know you don't know. That's why I'm calling ya.

Well, thanks. I... I didn't mean any harm.

Yeah yeah. Same thing with all that dog waste you have out there, alright? Pick that up!

You mean that you ev...

Pick it up! I don't want to talk about it, just pick it up.

I understand.

Listen, listen. All that stuff runs straight into our rivers and lakes.

That's where you swim. It's the source of your drinking water.

Oh my.

Ex-*act*-ly. Yeah, so do us both a favor, alright? Please, don't feed the storm drain.

Okay.

*"A message from*

*Fairfax County, Prince William, Loudoun, Arlington, Alexandria, Fairfax City, Herndon, Falls Church, the Virginia Coastal Program and NOAA."*

## Know what's yuckier than picking up dog poop?



**PLEASE  
PICK UP  
MY POOP.**

**Stepping in it.** Know what's even more disgusting than that? Swimming in, fishing from and drinking water that has dog poop in it! Please pick up after your pooch.

**C**leaning up pet waste is good for your health and the environment! Seriously. Pet waste left on the ground, especially near streets and sidewalks, gets washed into storm drains and drainage ditches which flow to your local waterway...without being treated! Bacteria, parasites, and viruses found in pet waste can be harmful to water quality and human health. Not only is picking up after your pooch the neighborly thing to do, it's the healthy thing to do... for you and the environment!



For more information, please visit the Northern Virginia Clean Water Partners web site at [www.onlyrain.org](http://www.onlyrain.org)

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## **IT'S UP TO YOU TO PREVENT WATER POLLUTION!**

### **Follow these simple tips:**

- Dispose of used motor oil and household hazardous waste through your local Household HazMat program;
- Avoid excess fertilizer or pesticide use;
- Always pick up pet waste from your yard or public area;
- Wash your car at a commercial carwash, or in a location where the soapy water will not run into the storm drain;
- Sweep up dirt, grass clippings, other yard waste instead of washing them down the driveway and into the gutter.



**Remember, Only Rain Down the Storm Drain!**

Northern Virginia Clean Water Partners

[www.onlyrain.org](http://www.onlyrain.org)

Design Courtesy of NCDENR Of Environmental Education and Washington State  
Department of Ecology, King County and the cities of Seattle and Tacoma

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Design Courtesy of NCDENR Of Environmental Education and Washington State  
Department of Ecology, King County and the cities of Seattle and Tacoma

3060 Williams Drive, Suite 510  
Fairfax, VA 22031  
www.novaregion.org



Voice: 703 642-0700  
Fax: 703 642-5077

## **Northern Virginia Regional Commission**

### **NEWS RELEASE**

#### **FOR IMMEDIATE RELEASE**

**March 14, 2007**  
**NVRC 07.10a**

Contact: Barbara J. Gordon, Communications Director  
703.642.4635

### **Local Governments Join Forces to Prevent Water Pollution** *Develop Comprehensive Education Campaign*

A large group of local governments and utilities in Northern Virginia have joined forces as the Northern Virginia Clean Water Partners to educate the public about steps they can take to prevent water pollution. Convincing the public that anything put down a storm drain can pollute a local stream is not an easy task, but a coordinated message from many agencies and various venues rather than individual messages should have more impact. "The availability of clean water for drinking, washing and recreation is one of the most important services local governments provide. Yet, polluted rivers have no boundaries. Local leaders understand the need to create a coordinated regional campaign to make a positive difference for our regions waterways. This is a very exciting effort," said Barbara F. Favola, chairman of the Northern Virginia Regional Commission.

Dog waste, excess fertilizer, and used motor oil are just a few of the pollutants that flow from neighborhood lawns, sidewalks and streets to the Potomac River and on to the Chesapeake Bay. While educational brochures are a handy tool, Northern Virginia governments have begun using more horsepower - the media - to inform residents about pollution and to meet regional goals for cleaning up local waterways.

For the third consecutive year, Northern Virginia local governments, in conjunction with the Northern Virginia Regional Commission, are using a 60-second radio spot featuring a tough-talking storm drain to get their message out. This year's campaign uses print materials, in addition to radio spots, with the theme, "Only Rain Down the Storm Drain."

The consortium of local governments and utilities behind this campaign also decided to brand their initiative by calling themselves the Northern Virginia Clean Water Partners. The "partners" include the counties of Arlington, Fairfax, Loudoun, Prince William, the cities of Alexandria, Fairfax, Falls Church, the towns of Herndon, Vienna, and Fairfax Water and the Loudoun County Sanitation Authority. For the first time, the radio campaign will attempt to "drive" listeners to action by directing them to a new website ([www.onlyrain.org](http://www.onlyrain.org)) that has more in-depth information on the issues, good practices, how to get involved by volunteering, and links to other pertinent websites.



The NoVa Clean Water Partners also intend to conduct another pre- and post-campaign survey to help quantify the effectiveness of the program. Last year's survey found that half the residents who heard the advertisement would "think differently about disposing of motor oil, fertilizing their lawn and picking up their pet's waste." Three out of four listeners indicated a "high" degree of concern after listening to the advertisement. And almost 9 out of 10 residents surveyed approved using tax dollars on this type of outreach campaign.

For information see [www.onlyrain.org](http://www.onlyrain.org) or contact Doug Pickford, Environmental and Heritage Resources, Northern Virginia Regional Commission, 703.642.4623 or [pickford@novaregion.org](mailto:pickford@novaregion.org).

##



## Loudoun County, Virginia

[www.loudoun.gov](http://www.loudoun.gov)

### News Release

Office of Public Information

1 Harrison Street, SE, P.O. Box 7000, Mailstop #03, Leesburg, VA 20177-7000

703/777-0113 • Fax 703/771-5841

For Immediate Release

May 3, 2007

Contact: Lorie Flading

703-737-8771

### **County TV Show Spotlights Stormwater Management & Master Gardeners**

The new edition of "Inside Loudoun County" features segments on the county's Stormwater Management and Master Gardener programs.

In the first segment of the show, Boyd Church, a stormwater engineer with the Department of General Services, discusses the importance of stormwater management and the various components of the county's stormwater management plan. Church also talks about things that Loudoun County residents can do to keep common pollutants such as pesticides, pet waste, grass clippings and automotive fluids off the ground and out of stormwater. By taking these simple steps, people can reduce the potential pollutants that stormwater can pick up as it travels over driveways, lawns and sidewalks.

The second segment of the show features Debbie Dillion of the Loudoun Extension Office, who oversees the Master Gardener program, and Barbara Arnold, president of the Loudoun County Master Gardener Association. They discuss the program, which trains volunteers who provide county residents with information on safe, effective and sustainable landscape management practices. The Master Gardener program offers many educational events that are open to the public. The volunteers also have a demonstration garden at Ida Lee Park in Leesburg. This year, a special section of the garden is devoted to planting heirloom vegetables in honor of the county's 250<sup>th</sup> anniversary and the 400<sup>th</sup> anniversary of Jamestown.

"Inside Loudoun County" is a 30-minute cable television program airing Mondays and Fridays at 7:00 and 9:00 p.m. on Government Channel 2. The show is hosted by Nancy McCormick of the Loudoun County Office of Public Information and is produced by Comcast.

###

**REQUESTOR****SCHOOL LOCATION**

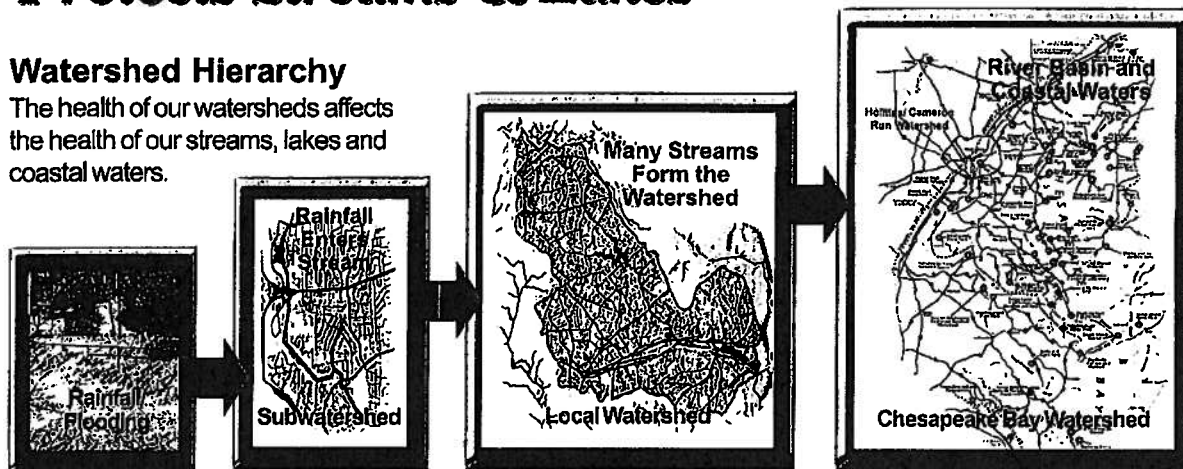
|                   |                                |
|-------------------|--------------------------------|
| Christina Ball    | Science Instruction            |
| Gale Bartley      | Broad Run High School          |
| Janet Cascio      | Stone Bridge High School       |
| MaryRita Cuddihy  | Farmwell Station Middle School |
| John Demary       | Loudoun Valley High School     |
| Jeanette Fehr     | Stone Bridge High School       |
| Bradley George    | Dominion High School           |
| Lauren Gould      | Dominion High School           |
| Mariah Gunderson  | Heritage High School           |
| Michael Hitzges   | Broad Run High School          |
| Debbie McClay     | Potomac Falls High School      |
| Liam McGranaghan  | Loudoun Valley High School     |
| Mack Mitchell     | Broad Run High School          |
| Jill Peters       | Potomac Falls High School      |
| Jennifer Phipps   | Park View High School          |
| Michael Weinstein | Loudoun County High School     |
| Renee Whitmire    | Stone Bridge High School       |
| Cynthia Walsh     | Farmwell Station Middle School |
| Elizabeth Walker  | Farmwell Station Middle School |
| Mary Young-Lutz   | Dominion High School           |

# Managing Our Water Resources

## Watershed Management Protects Streams & Lakes

### Watershed Hierarchy

The health of our watersheds affects the health of our streams, lakes and coastal waters.



### Degraded Environment

This is where we are in many urban/suburban regions.

#### 1. INFILTRATION

20% or greater impervious surface = 2-5 times more stormwater runoff.



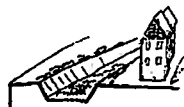
#### 2. FLOODING & EROSION

Increases in amount and rate of water causes urban streams to erode and flood more frequently. Development around streams allows little room for flood water.



#### 3. SEDIMENTATION

Increased sediment caused by construction and erosion accumulates in the channels of urban streams.



#### 4. FILTERING & POLLUTION

Reduced vegetation along urban streams decreases stormwater filtration. Stormwater transports pollutants and debris directly into the streams.



#### 5. CHANNELIZATION

Stream banks are stabilized by concrete or rocks. This degrades the riparian environment.



### Desired Riparian Environment

This is the target for healthy streams.

Less than 20% impervious surface. Stormwater slowly infiltrates the soil.



The floodplain provides space for water during floods.



Sediment reaches equilibrium with volume of flow.



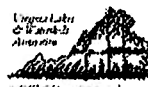
Vegetation helps to filter pollutants before they reach the stream.



Stream banks are stabilized by trees, plants, and alluvial material. Shade trees control water temperature and help aquatic life.



Department of Landscape Architecture, Virginia Polytechnic Institute & State University  
Virginia Lakes & Watersheds Assoc., & the National Biological Information Infrastructure  
Copyright 2002: [www.lar.arch.vt.edu](http://www.lar.arch.vt.edu)



# Managing Our Water Resources

## Watershed Management

### Aquatic Buffers

Buffers ensure the natural functioning of floodplains, regulate light and temperature conditions, provide habitat for aquatic organisms, remove sediment, nutrients, and bacteria, and help to stabilize and protect stream banks. A 100-foot buffer is required in Chesapeake Bay resource protection areas.

#### Buffers

- Monitor buffers regularly for condition.
- Respect, protect or restore aquatic buffers that might exist on your property.

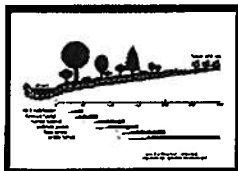
### Actions That Reduce Impervious Surfaces

#### Zoning/Rezoning

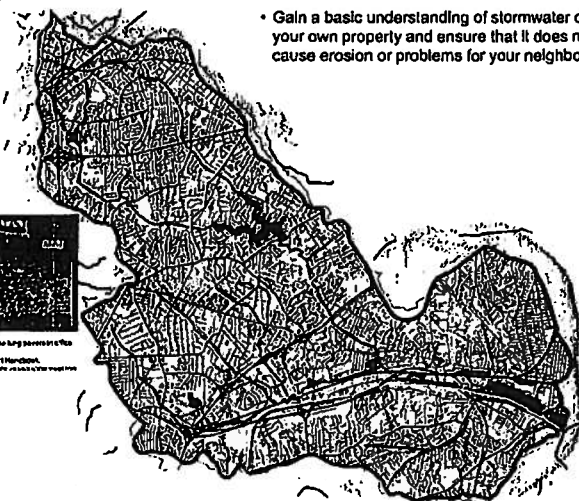
- Clustering development.
- Cooperative parking or shared parking, multi-story parking structures or underground parking.
- Narrowing street widths or local roads.
- Discourage variances.

#### Retrofits to Existing Development

- Retrofit existing cul-de-sacs with rain gardens designed to hold stormwater.
- Retrofit with design techniques that capture runoff, such as a grassed swales.
- Landscape when possible with native vegetation.
- Use porous paving materials for driveways, parking lots.
- Conserve infill properties for BMPs.



Indicates trench with terraces for long periods of time and leading Virginia Stormwater Management Handbook. Downloading Stormwater Management Handbook.



### Best Management Practices (BMPs)

Stormwater Best Management Practices (BMPs) are techniques used to delay, capture, store, treat, reduce, or infiltrate stormwater runoff. Five basic types of structural BMPs include: 1) ponds, 2) wetlands, 3) infiltration devices, 4) filtering systems, including bioretention (eg. rain gardens), and 5) open channels. Nonstructural BMPs include buffers and street sweeping.

#### Citizens can contribute by:

- Protect all natural wetland and open water areas.
- Maintain vegetated buffer strips and BMPs to improve infiltration of stormwater.
- Landscape with native plants.
- Gain a basic understanding of stormwater on your own property and ensure that it does not cause erosion or problems for your neighbors.



Stormwater buffer strip parking lot



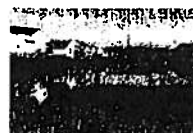
Grass and a through residential area help to reduce stormwater runoff and improve infiltration of water into the ground.



Constructed Stormwater Wetland



Landscape with native plants and grasses help to reduce stormwater runoff and improve infiltration of water into the ground.



Stormwater management practices help to reduce stormwater runoff and improve infiltration of water into the ground.



Small stream with a buffer strip



Wetland with a buffer strip



Grass and a through residential area help to reduce stormwater runoff and improve infiltration of water into the ground.

### Actions for Erosion & Sediment Control

#### Developers/Contractors

- Provide temporary BMPs.
- Stabilize exposed soils and drainage ways immediately following disturbance.

#### Regulations/Citizens

- Learn what the erosion and sediment control laws are, who enforces them, what their enforcement record has been, and if the laws are effective in protecting local waters.
- Organize together to recognize and report violations.



Sediment control measures installed with a new road and a new building. Virginia Stormwater Management Handbook. Downloading Stormwater Management Handbook.

### Actions for Nonpoint Source Pollution

#### Citizens:

- Recycle used oil and antifreeze.
- Minimize the use of chemical pesticides, fertilizer, or herbicides (follow manufacturer's instructions).
- Dispose of litter properly; help keep street gutters and storm drains free of litter; don't throw leaves, yard debris or trash down storm drains.
- Clean up pet wastes and dispose of household garbage; don't allow pet wastes to be washed into storm drains.

#### Developers/Regulators:

- Establish a stormwater utility to maintain BMPs.
- Follow existing regulations governing stormwater and water quality control.

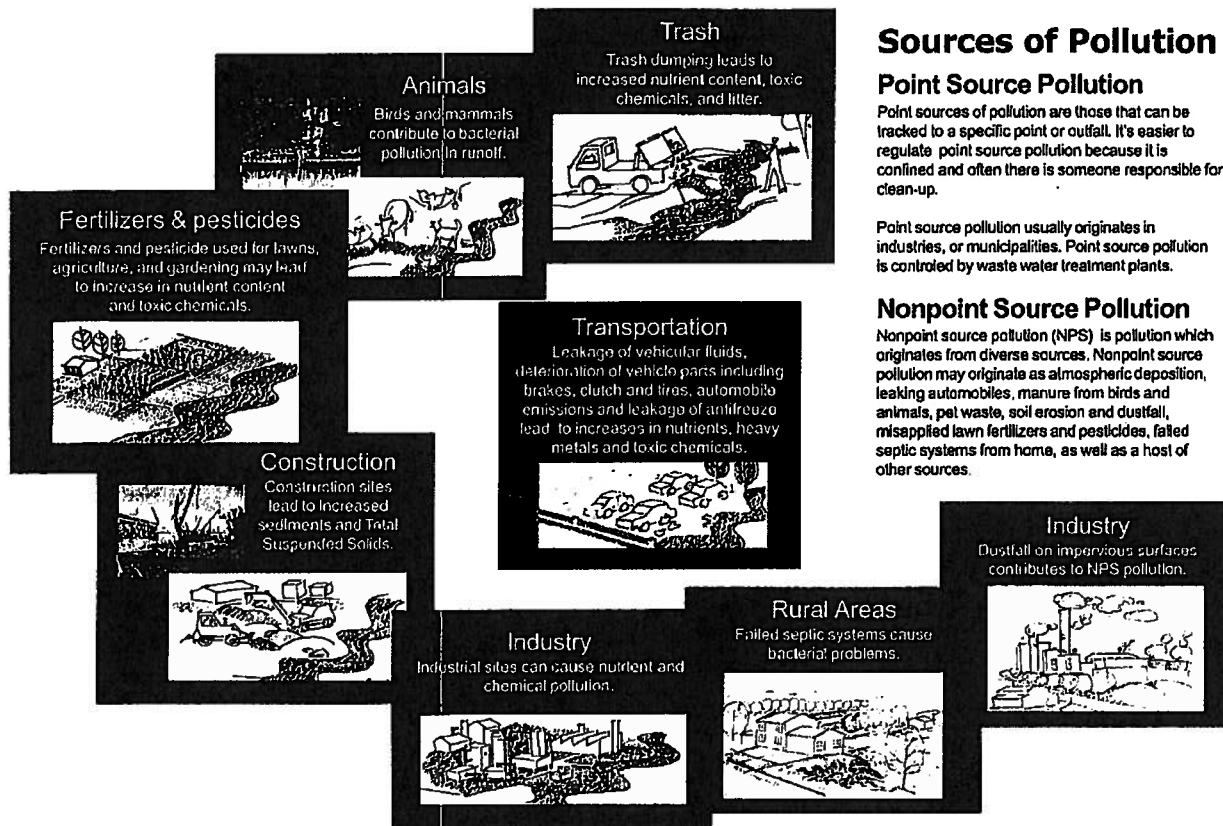


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# Managing Our Water Resources

## Water Quality Actions, Consequences, and Goals



### Sources of Pollution

#### Point Source Pollution

Point sources of pollution are those that can be tracked to a specific point or outfall. It's easier to regulate point source pollution because it is confined and often there is someone responsible for clean-up.

Point source pollution usually originates in industries, or municipalities. Point source pollution is controlled by waste water treatment plants.

#### Nonpoint Source Pollution

Nonpoint source pollution (NPS) is pollution which originates from diverse sources. Nonpoint source pollution may originate as atmospheric deposition, leaking automobiles, manure from birds and animals, pet waste, soil erosion and dustfall, misapplied lawn fertilizers and pesticides, failed septic systems from home, as well as a host of other sources.

### Goals: Where We Want To Go

These are desirable water quality targets for streams, lakes and coastal waters.

| Water Quality Indicator | Healthy Condition    | Comments  |
|-------------------------|----------------------|---|
| Dissolved Oxygen        | 5 - 6mg/l *          | Fish needs Dissolved Oxygen to live.                          |
| Sediment                | Minimal              | Minimize turbidity & deposits                                 |
| Phosphorus              | .05mg/l              | Controls excessive aquatic vegetation: algae and water plants |
| Nitrogen                | as low as possible   |   |
| Temperature             | 60-70°F              | High quality fish (trout) need cold water                     |
| Fecal Coliform          | <200 colonies/100 ml | Typical state standard  |
| pH (acidity)            | 6.5 to 8.5           | Well buffered natural water                                   |

\* one milligram per liter (mg/l) is equivalent to one part per million parts.

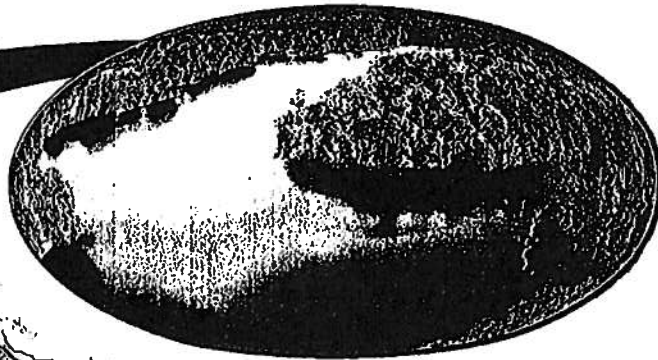


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# Managing Our Water Resources

## Lake Management



*Absence of Watershed Management  
Creates a Wide Range of Problems*



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## **Stormwater Management Program**

### **Public Information and Participation**

#### **Public Invited to Learn More about Stormwater Management**

The Loudoun County Department of General Services held a public information meeting to discuss the county's role in stormwater management at the Cascades Library on Tuesday, June 5, 2007. The department's presentation is online:

- ↳ [Stormwater Presentation 06-05-07](#)

#### **Annual Reports Online**

Keeping the public informed is a key component of the Stormwater Management Program. To that end, the program's annual reports are available online:

- ↳ [Annual Reports](#)

Other status and progress reports will be posted as they are developed.

#### **Other Documents**

Several general information documents are available online. Adobe Acrobat Reader is required to view or download the documents. A link to the free reader is below.

- ↳ [Door Hanger](#)
- ↳ [Stormwater Crossword Puzzle Placemat](#)
- ↳ [Stormwater Poster](#)
- ↳ [Solution to Pollution Brochure](#)
- ↳ [Get Adobe Acrobat](#)

#### **For More Information**

In addition to the Stormwater Management Program webpages, there are several other pages within the Loudoun County website where resource-based information and services can be found.

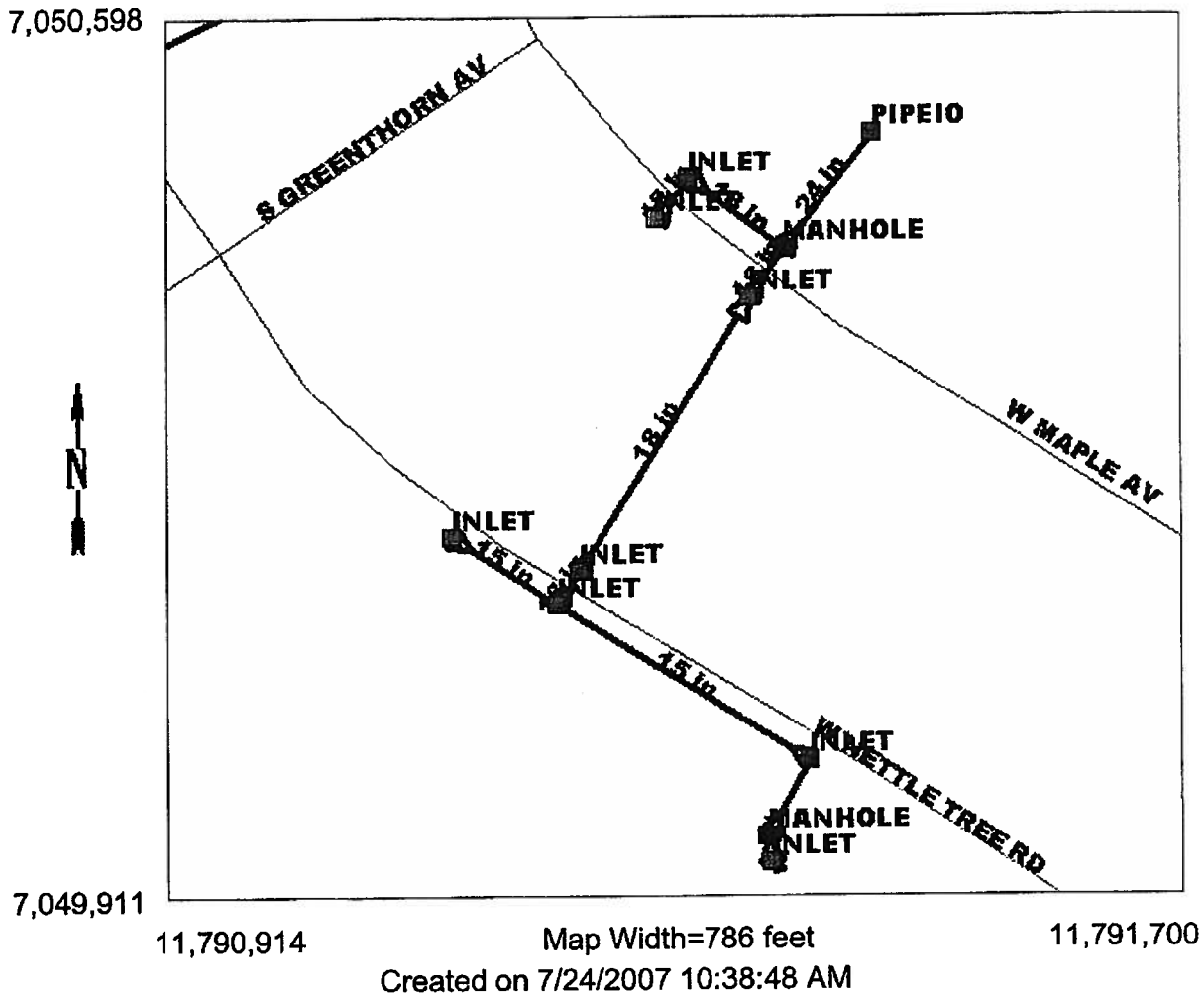
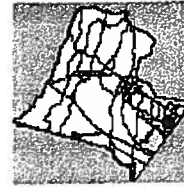
- ↳ [Water Conservation](#)
- ↳ [Water Resource Monitoring Program](#)
- ↳ [Water Resources Monitoring Data Online-USGS](#)
- ↳ [Water Resources Technical Advisory Committee](#)
- ↳ [Groundwater Conservation](#)
- ↳ [Groundwater Contamination](#)
- ↳ [Catoctin Creek Water Quality Implementation Plan](#)

#### **Related Links**

- ↳ [Stormwater Management Program](#)



# Loudoun County Mapping System



| Stormwater Structures |         |
|-----------------------|---------|
|                       | INLET   |
|                       | MANHOLE |
|                       | PIPEIO  |